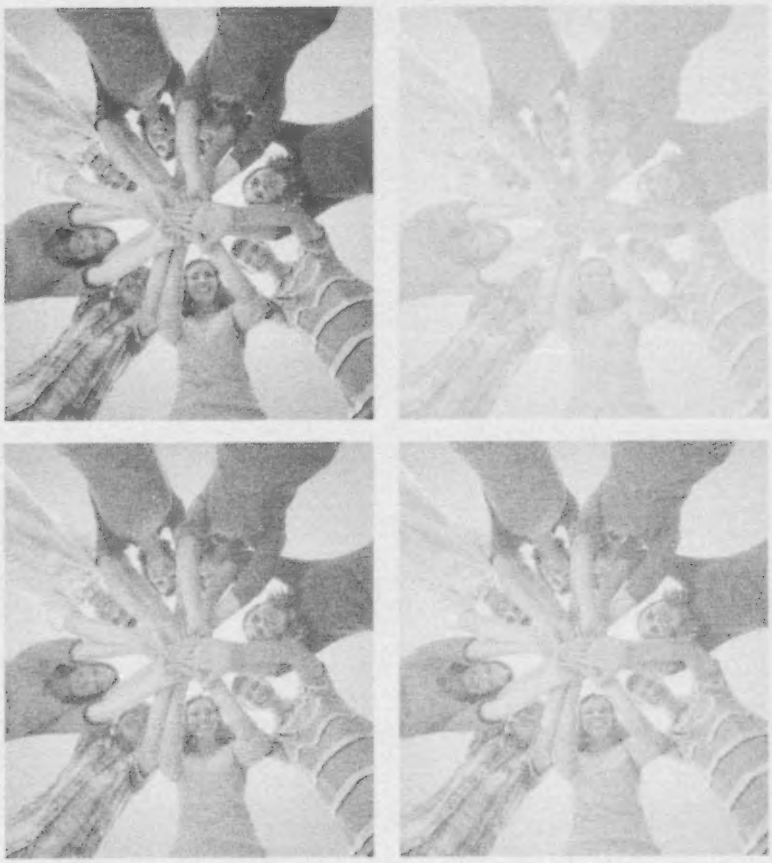
Yukon 2012 Health Status Report
Focus on Children and Youth



Yukon
Health and Social Services

Foreword from the Chief Medical Officer of Health

The people of the Yukon are unique. We are isolated yet globally connected, Northern yet worldly, rooted in cultures that reach back thousands of years, yet open to newcomers from around the world. We are surrounded with wilderness and beauty. Our sense of North combined with our small population and our First Nations heritage endows us with strong social values. The territory's distinctive context has influenced those of us who were born here, and has attracted many others who are drawn to adventure. Perhaps there is something about this unique setting that can explain some of the paradoxes of health that we see.

In many ways we are strong, resilient and healthy. As we will see in this report, survey data tells us that most of us rate ourselves as happy, that life stresses are generally under control, and we rate our health as "very good to excellent". Around 73% of our population describes their mental health as being "very good or excellent", and over 92% report being "satisfied or very satisfied" with life. Compared with the rest of Canada, a greater proportion of Yukoners are physically active, and our population has a lower rate of diabetes than for Canadians overall.

On the other hand, we also struggle with many health issues: addictions, unhealthy sexual practices, high rates of tobacco use and high rates of serious injury. Heavy drinking rates are almost double the national norm. Twenty-five percent of Yukoners smoke daily compared to only 16% across Canada. We lead the country in Hepatitis C rates, largely related to unsafe injection drug use. Chlamydia infection rates are two to four times the national rate. First use of cannabis starts early in significant numbers of young Yukoners, especially in rural Yukon. Our rates of fatal injuries are almost three times the national average and between 2009 and 2011 almost 4,400 visits were made by children to the emergency department in Whitehorse because of injuries.

How do we begin to understand some of these paradoxes, and how can we influence health outcomes for the better? One logical place to begin is early. That's why in this report I have chosen to highlight the health and wellbeing of children and youth. Many of our preventable health issues are strongly linked to risk-taking behaviors, behaviours that are influenced by our experiences that begin in early childhood and continue through school ages and adolescence.

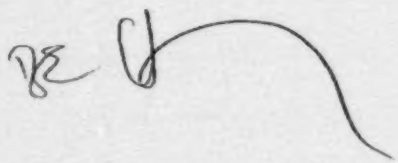
In this report we have compiled a broad range of information that paints a compelling portrait of our children and our young people: a portrait that at times is disturbing but that also clearly points the way forward. There is strong evidence that investing in our children early on in life and through the school years will pay dividends in healthier Yukoners for generations to come. I am also pleased that a focus on children and families aligns with several recent territorial initiatives on child and family wellness, including the development of a Wellness Plan for Yukon's Children and Families.

There is still much we need to learn about what shapes the health of Yukoners, why we behave as we do, and how we take risks. I hope that this report is a good start in that direction.

Forty years ago, Yukon First Nations chiefs journeyed to Ottawa to present Pierre Elliot Trudeau with the document that laid the road map for the Land Claims agreements that have changed Yukon's social and cultural landscape. That document was called *Together Today for Our Children Tomorrow*. I can think of no better way to describe the purpose of this report. I hope that the *2012 Health Status Report* will help us shape the roadmap for the next few years, ultimately towards a healthier Yukon.

Finally, I would love to hear your comments: how have you used this report: how has it helped, and how could it be better the next time?

Yours in health,



Brendan E. Hanley, MD CCFP(EM) MPH
Medical Officer of Health, Yukon

Table of Contents

Foreword from the Chief Medical Officer of Health i

Table of Contents iii

Introduction 1

Part 1: Who Are We and How Are We Doing? 2
- Demographic Overview 3
- Life Expectancy and Mortality 5
- Chronic Conditions 8
- Communicable Diseases 10
- Mental Wellbeing 13
- Injuries 14
- Risk Behaviours 15
  - Alcohol Use 15
  - Tobacco Exposure 15
  - Food, Nutrition and Weight 16
  - Physical Activity 17
- Health Care System Performance 18

Part 2: Focus on Children and Youth 21
- Yukon Families 22
  - Family Status and Living Arrangements 22
  - Family Income 23
  - Food Security 24
  - Material Deprivation 25
  - Housing Affordability 25
- Yukon Children 27
  - Infancy and Early Childhood 27
    - Pregnancy and Birth 27
    - Infancy 28
    - Early Childhood (0 to 4 Years) 30
  - Middle Years (Ages 5 to 11) 34
    - Immunization 34
    - Injuries 34
    - School Achievement 35
    - Physical Activity 36
  - Youth (Ages 12 to 18) 37
    - Immunization 37
    - Injuries 37
    - School Achievement 39
    - Emotional and Behavioural Well-Being 40
    - Risk Behaviours 42
    - Healthy Weight and Nutrition 45
    - Physical Activity and Sedentary Behavior 46

Conclusions 48

References 51

Tables

Table 1: Total Population by Age Group, Yukon and Communities (June, 2012) 3
Table 2: Age-Standardized Mortality Rates for Leading Causes of Death (10-Year Average, 2000-2009) 6
Table 3: Age-Standardized Mortality Rates for Cancer, (3-Year Average, 2005-2007) 7
Table 4: Diseases Transmitted by Direct Contact and Respiratory Routes (2007-2012) 10
Table 5: Enteric, Food and Waterborne Diseases (2007-2012) 11
Table 6: Laboratory-Confirmed Sexually Transmitted and Blood-Borne Infections (2007-2012) 11
Table 7: Diseases Preventable by Routine Immunization (2007-2012) 12
Table 8: Percent of households that obtain food from home-grown or harvested sources (2010) 16
Table 9: Hospital Inflow/Outflow Ratio 19
Table 10: Grade 3 Students who Achieved Success or Excellence on Yukon Achievement Tests (2011/12) 36
Table 11: Students in Grades 6 and 9 Who Achieved Success or Excellence on Yukon Achievement Tests (2011/12) 39
Table 12: Graduation Rates among Students Enrolled in Grade 12 (2012) 40
Table 13: Emotional and Behavioural Well-Being (2009/10) 40
Table 14: Students Indicating Risk Behaviours Pose Slight or No Risk to Health (2009/10) 44
Table 15: Riding in or Driving a Vehicle While Under the Influence of Alcohol or Drugs in the Past 30 Days (2009/10) 45

Figures

Figure 1: Population Pyramid for Yukon (2012 and 2022) 4
Figure 2: Life Expectancy at Birth (Three-Year Average, 2007-2009) 5
Figure 3: Life Expectancy at Age 65 (Three-Year Average, 2007-2009) 6
Figure 4: Self-Report of Selected Chronic Conditions in the Population Ages 12 and Over (2009/10) 8
Figure 5: Self-Reported Mental Health Status, Population Ages 12 and Over (2009/10) 13
Figure 6: Weight Classifications for Adults Ages 18 and Over (2009/10) 16
Figure 7: Population Age 12 and Over That Report Being Active or Moderately Active (2009/10) 17
Figure 8: Family Structure of Children Ages 0 to 17 in Census Families (2011) 22
Figure 9: Median Family Income by Family Type and Number of Children (2010) 23
Figure 10: Households Experiencing at Least One Element of Food Insecurity (2010) 25
Figure 11: Low and High Birthweights (2003-2012) 28
Figure 12: Infant Mortality Rate per 1,000 Live Births for Selected Countries (2009) 30
Figure 13: Children Up-to-Date for Immunizations at Ages 2 and 3 (2011) 32
Figure 14: Emergency Department Visits for Injuries to Children Ages 0 to 5 by Major Cause, Whitehorse General Hospital (2009-2011) 33
Figure 15: Yukon Kindergarten Students Showing Vulnerability, Based on the Early Development Instrument (2011/12) 34
Figure 16: Emergency Department Visits for Injuries to Children Ages 5 to 11 by Major Cause, Whitehorse General Hospital (2009-2011) 35
Figure 17: Emergency Department Visits for Injuries to Youth Ages 12 to 18 by Major Cause, Whitehorse General Hospital (2009-2011) 38
Figure 18: Students Reporting an Injury During the Previous 12 Months (2009/10) 39
Figure 19: Grade 9-10 Students Reporting Binge Drinking More than Once a Month (2009/10) 42
Figure 20: Students Reporting Having Ever Smoked Tobacco (2009/10) 43
Figure 21: Students Classified as Overweight or Obese by Body Mass Index (2009/10) 46
Figure 22: Students Who Were Physically Active At Least 60 Minutes a Day Every Day for the Previous Week (2009/10) 47

Introduction

This report charts the current status of health and well-being among the Yukon population. It has been three years since the last Health Status Report was published in 2009, and since that time many events and issues have surfaced. From the influenza pandemic that was only starting to reach Yukon at the time the last report was written, we witnessed the direct impact that a major global public event can have on our small population, even when the overall severity was low. We learned quickly, and rapidly improved the way that we prepare for health emergencies and carry out influenza and other communicable disease surveillance. The 2011 Arctic Winter Games allowed us the chance to put public health planning for a mass gathering into play, acting quietly in the background to ensure that no infectious disease would hold back the games.

While Yukon's economy thrives overall, homelessness and fragile housing conditions and its intersection with health has become a major issue affecting many Yukoners. The state and future of the Yukon health care system has also been a prominent theme. We also have at our disposal a host of new information from a variety of surveys and reports.

A health status report—if done well—should, by compiling and interpreting information, be able to help Yukoners understand some of the key health issues of today and assist decision-makers in establishing policies and programs that improve the health of Yukoners and the prosperity of our territory.

The first part of this report focuses on health outcomes and health determinants, primarily among the territory's adult population. In this section, we look at the hard outcomes of mortality, disease and injury, as well as a number of lifestyle and behavioural risk factors that influence the development and presentation of these conditions.

The second part of the report shifts the focus to children and families. With Yukon's youthful population—over 20% of the population is comprised of children under the age of 19—the health and well-being of our children is vitally important. In this section, we take a closer look at social environments, family circumstances and health outcomes among Yukon children and youth.

The current and future health status of Yukon children and youth is important for a number of reasons. The inherent value of children to their loved ones and to society notwithstanding, children who grow up to be mentally, emotionally and physically healthy adults will be better able to contribute to a well-functioning society. They will be less likely to place heavy demands on the health care and social service systems, reducing the potential costs associated with those program areas.

The information presented in Part 2 of this report complements a number of interesting initiatives that are taking place across the territory, especially at the pre-school and early school levels. As an example, the *Handle with Care* program, which works with families and caregivers to promote the mental health of young children, is showing promising results and receiving a great deal of attention from parents.

The ultimate goal of the *Yukon 2012 Health Status Report* is to inform readers about the health of the population; to stimulate discussion about how to reduce risk and improve outcomes; and to inspire action that will enhance quality of life and sustainability of health care over the long term.

Part 1: Who Are We and How Are We Doing?

Demographic Overview

As of June 2012, an estimated 35,862 people were calling Yukon home. More than three-quarters of the population (over 27,000 people) were living in Whitehorse, nearly two thousand were living in Dawson City, just over 1,500 were living in Watson Lake, and the remaining five thousand people were distributed among Yukon's smaller communities and rural areas.

The median age in Yukon in 2012 was 39.4 years, close to the Canadian average of 40.0 years, and considerably older than the median age of the Northwest Territories (32.1 years) or Nunavut (24.7 years). The proportion of children and youth was also similar for both Canada and Yukon, with about 22% of the population aged 19 or under. However, Yukon as a whole had a smaller share of seniors than Canada; fewer than 10% of our residents were seniors as of June 2012, while nationally nearly 15% of the population was aged 65 or older.[1,2]

As shown in Table 1, the age composition varies considerably among Yukon communities. Tagish and Destruction Bay had the greatest proportion of seniors (25% and 22% respectively), and Carmacks, Old Crow and Ross River had the greatest proportion of youth ages 0 to 19 (29%, 28% and 27%).

Table 1: Total Population by Age Group, Yukon and Communities (June, 2012)

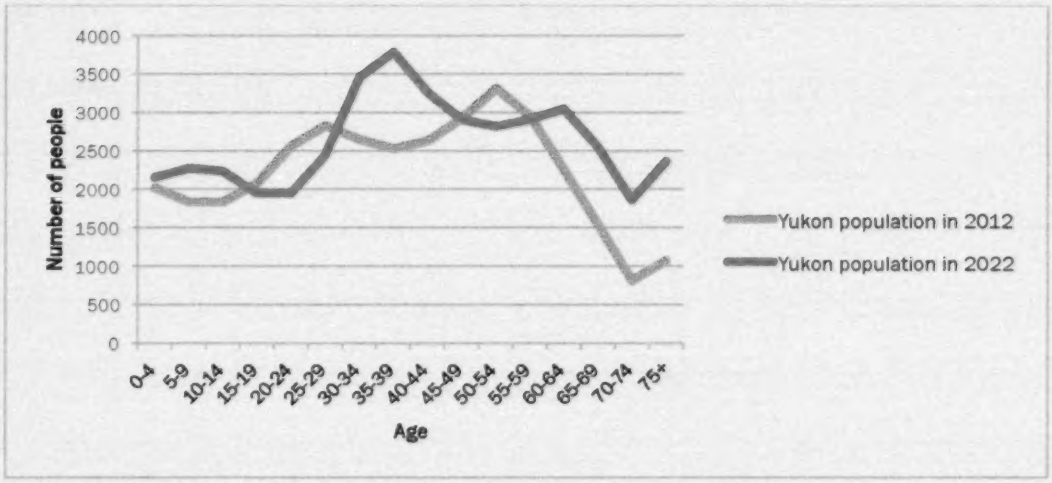
	Population	Ages 0-19 (%)	Ages 20-44 (%)	Ages 45-64 (%)	65 and over (%)
Yukon	35,862	22	37	32	10
Whitehorse	27,323	22	38	31	9
Outside Whitehorse	8,540	20	33	35	12
Beaver Creek	111	18	33	36	12
Burwash Landing	97	19	34	31	18
Carcross	429	19	33	36	13
Carmacks	519	29	35	27	9
Dawson City	1,935	17	38	35	9
Destruction Bay	51	6	31	41	22
Faro	372	18	23	42	16
Haines Junction	824	20	32	36	13
Marsh Lake	511	15	27	44	14
Mayo	454	20	31	35	13
Old Crow	243	28	34	30	9
Pelly Crossing	337	23	37	28	12
Ross River	373	27	35	30	9
Tagish	245	14	18	42	25
Teslin	466	20	35	32	13
Watson Lake	1,502	22	30	35	13
Other	71	6	21	63	11

Source: Yukon Bureau of Statistics. 2012. Population Report. June 2012 (updated). Retrieved from http://www.eco.gov.yk.ca/stats/pdf/populationJun(r)_2012.pdf January 25, 2013

Notes: "Other" includes communities such as Champagne, Elsa, Johnson's Crossing, Keno City, Stewart Crossing & Swift River

In the coming years, Yukon's population is expected to grow and age, a trend that is occurring across most of the country. The chart below illustrates the population distribution in Yukon as of June 2012, compared to the projected population in 2022. We know that the population growth and composition can be affected by a number of factors, including changes in the economy, housing prices, birth rates and life expectancy, among others. Nonetheless, these projections offer a glimpse as to what our population might look like if recent trends hold. Based on these projections, the proportion of our population ages 65 or over will increase from 10% to 16%, and the proportion of children and youth up to age 19 will decrease only very slightly, from 22% to 21%.

Figure 1: Population Pyramid for Yukon (2012 and 2022)

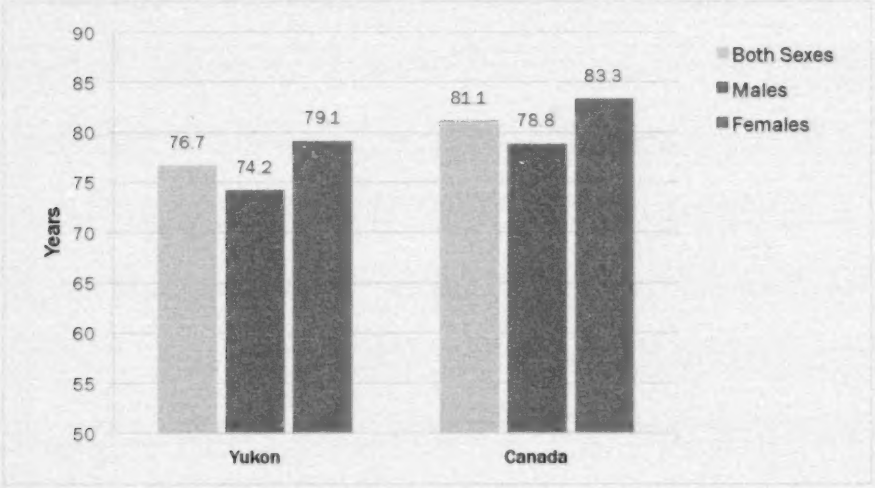


Source: Yukon Bureau of Statistics. 2012. All Population Projections as of November 21, 2012. Special extraction produced by S. Markley, November 21, 2012.

Life Expectancy and Mortality

Life expectancy tells us how many years, on average, a person may be expected to live if current trends in mortality continue over that individual's lifespan. As of 2007-2009, the estimated life expectancy at birth was 76.7 years in Yukon, meaning that the average baby born in that time period could expect to live 76.7 years. Although data suggest that life expectancy may be increasing across Yukon, it still lags more than four years behind Canada as a whole, which had a life expectancy at birth of 81.1 years for the same time period. In both Yukon and Canada—as well as in most regions worldwide—males have had a shorter life expectancy at birth than females, with a gap of almost five years, as shown in Figure 2.

Figure 2: Life Expectancy at Birth (Three-Year Average, 2007-2009)

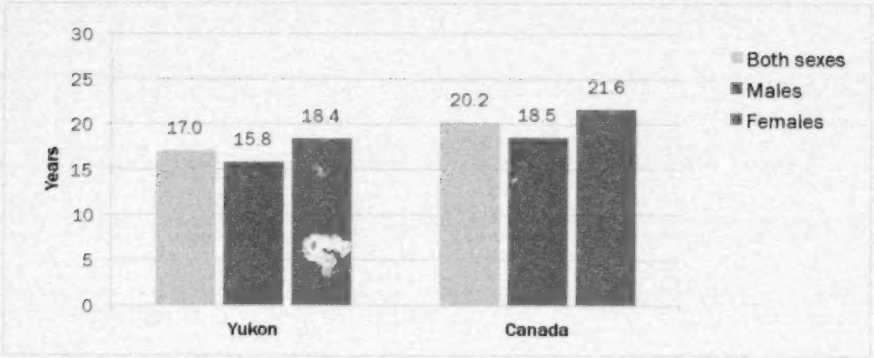


Source: Statistics Canada. 2013. CANSIM Table 102-4307

A second useful measure of life expectancy describes how much longer, on average, someone who has attained age 65 can expect to live. This is shown in Figure 3. As of 2007-2009, Yukon residents who were age 65 were expected to live, on average, an additional 17 years. Again, this figure is lower than for Canada as a whole, but the difference is less---only about three years. The difference between the sexes is also smaller.

The smaller gaps at age 65 are encouraging. They may in part be connected to a relatively high rate of injury-related death in Yukon (discussed later in this report), which primarily affects younger age groups. However, the persistence of risk behaviours such as tobacco smoking and addictions, which likely contribute to a higher rate of death amongst Yukoners as a whole, are likely still affecting quality and duration of life in the senior years.

Figure 3: Life Expectancy at Age 65 (Three-Year Average, 2007-2009)



Source: Statistics Canada. 2013. CANSIM Table 102-4307

The mortality rate tells us what the most common causes of death are in a population *(see next page for explanation)*. Table 2 shows the age-standardized mortality rate for the leading causes of death in Yukon. Due to Yukon's small population and small number of deaths, the table provides an annual average for the ten-year period of 2000-2009. The table lists causes of death in order: cancer caused the most deaths (232.83 deaths per 100,000 people per year), followed by diseases of the heart, and unintentional injuries at number three. The top 10 causes of death in Yukon are the same as in Canada as a whole; however, the order of causes is different, as can be seen in the different ranks for the different diseases. Notably, the rate of deaths from unintentional injury is nearly three times the rate for all of Canada. On the whole, age-standardized mortality is about 35% higher in the territory than the Canadian average.

Table 2: Age-Standardized Mortality Rates for Leading Causes of Death (10-Year Average, 2000-2009)

	Yukon		Canada	
	Rate per 100,000 population per year	Rank	Rate per 100,000 population per year	Rank
Total (all causes of death)	761.22		566.36	
Cancer	232.83	1	171.31	1
Diseases of heart	145.89	2	124.91	2
Unintentional injuries	70.94	3	25.35	4
Cerebrovascular diseases	46.20	4	34.51	3
Chronic lower respiratory diseases	41.40	5	24.83	5
Suicide	13.80	6	10.83	9
Diabetes mellitus	11.74	7	18.39	6
Influenza and pneumonia	11.39	8	12.35	8
Kidney disease	9.87	9	8.33	10
Alzheimer's disease	8.78	10	12.55	7

Source: Statistics Canada. 2012. CANSIM Table 102-0563 - Leading Causes of Death, total population by sex, Canada, provinces and territories.

Notes: Cerebrovascular diseases includes causes such as cerebral thrombosis (stroke), cerebral embolism, cerebral hemorrhage and aneurysms. Chronic lower respiratory diseases include asthma, chronic obstructive pulmonary disease (COPD) and emphysema. Kidney disease includes nephritis, nephrotic syndrome and nephrosis.

The mortality rate is quite different for males and females in Yukon. The age-standardized mortality rate for the 2000-2009 period was 922.75 for males, but only 617.49 for females. The top ten causes of death for Yukon males were those listed for the general population in Table 2; however, among women, chronic liver disease and septicaemia (blood infection) outranked kidney disease and suicide in the top 10 list.[3]

Cancer was the top cause of mortality in Yukon for 2000-2009, and was about a third higher than the Canadian rate. The top three causes of cancer death in the territory—lung cancer, colorectal cancer, and prostate cancer—also appeared to be higher than Canadian averages, although the small number of deaths in Yukon means that there is less confidence that the estimated figure is not exact, and may not actually be higher than the national rate *(see explanation of "confidence intervals" under Chronic Conditions).* Table 3 shows the mortality rates for these cancer types for the period 2005-2007. The rates were similar to the previous reference period of 2000-2002; about 75 people in Yukon die from cancer each year.[4]

Table 3: Age-Standardized Mortality Rates for Cancer, (3-Year Average, 2005-2007)

	Yukon		Canada	
	Rate per 100,000 population per year	95% confidence interval	Rate per 100,000 population per year	95% confidence interval
All cancers	244.1	206.5-281.7	166.4	165.6-167.1
Colorectal cancer	27.4	14.8-40.1	17.9	17.7-18.1
Lung cancer	57.8	39.2-76.4	45.4	45-45.8
Prostate cancer	16.9	6.2-27.6	8.3	8.1-8.5
Breast cancer	(number too low to report)		11.9	11.7-12.1

Source: Statistics Canada. 2011. CANSIM Table 102-4309 – Mortality and potential years of life lost, by selected causes of death and sex, three-year average, Canada, provinces, territories, health regions and peer groups.

What is a mortality rate?

A mortality rate measures the number of deaths occurring in a given population or region, and is usually reported as a rate per 100,000 population. For example, if the mortality rate is 250, this means that 250 of every 100,000 people in that region died in that year.

We use mortality rates to compare different areas. If the mortality rate of one region is higher than another, that means more deaths are happening in that region as a proportion of the population. If the mortality rate for a specific cause, such as cancer, is higher more people are dying of cancer in that region as a proportion of the population.

What is an age-standardized mortality rate?

However, if the age distribution of two populations is quite different—for example, one region has a much higher proportion of seniors–a comparison of the overall mortality rates may be less meaningful. Simply due to the older population, a higher mortality rate would be expected.

To reduce the impact of age distribution differences, we age-standardize mortality rates. That is, we calculate what the mortality rate would be if the two populations had the same age structure. This allows a fair comparison of the mortality rates; any differences are due to factors other than a different age structure in the population—for example, factors such as differences in the number of people developing disease, the severity of illness, or the effectiveness or availability of treatment.

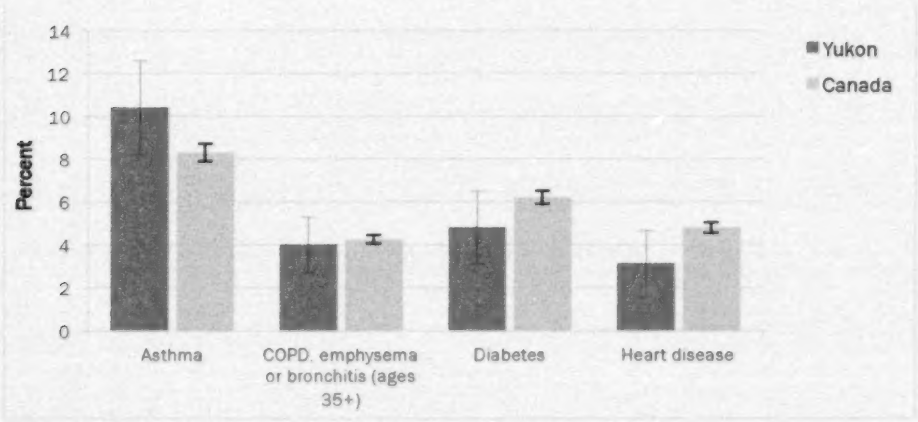
Chronic Conditions

Chronic conditions are diseases such as diabetes, cancer and heart disease that last for months or years, and constitute—by far—the leading causes of death and disability. Chronic conditions are important to individuals because they detract from quality of life and often trigger other health problems. They are also an important public health issue because chronic conditions are costly and place a significant demand on health care services.

Asthma, chronic respiratory disease (chronic obstructive pulmonary disease or COPD, emphysema and bronchitis), diabetes, heart disease and cancer are among the most common chronic conditions within Yukon and across Canada.

As shown in Figure 4, around 10 percent of people ages 12 and over in Yukon reported having asthma in 2009/10. Chronic respiratory diseases were reported by around four percent of the population, diabetes by around five percent, and heart disease by around three percent.

Figure 4: Self-Report of Selected Chronic Conditions in the Population Ages 12 and Over (2009/10)



Source Statistics Canada. 2013. CANSIM Table 105-0502
Note Estimates are not age-standardized

Figure 4 also shows comparable rates of chronic conditions for the Canadian population. While the figures for Yukon may seem to be higher or lower for the specific conditions than the Canadian average, it is actually quite difficult to say with any degree of certainty that rates are in fact different. This is because the estimates are taken from a survey (the Canadian Community Health Survey) that was administered to only a portion of Yukon's already-small population. Because of these small numbers, there is a large amount of imprecision in the estimates. To compensate for this uncertainty, disease rates are often discussed in the context of *confidence intervals (see box below)*. Because the confidence intervals for Yukon and Canada overlap, it is not possible to say with sufficient certainty that the true rates of disease of the two populations are truly different.

Cancer is another important chronic condition that affects many people directly or indirectly through its impact on family members or friends. In 2012, there were 130 new cases of cancer diagnosed in Yukon, split evenly between men and women, and 75 cancer deaths.[4] Data from the Canadian Cancer Registry

suggest that the number of new cancer cases in Yukon has generally been increasing since the early 1990's.[4] This increase could be attributed to factors such as improved cancer diagnosis or an aging population. While the absolute number has been showing a general increase, the age-standardized rate of new cases has been fluctuating annually, with no clear overall trend.

Although most chronic conditions are multifactorial—meaning that they are the result of a combination of factors such as environment, genetics and behavior—most have a causal component that is within our ability to influence. Reducing exposure to contaminants at home and in our environment, decreasing excessive alcohol consumption, limiting smoking and exposure to smoke, eating a healthy, balanced diet, exercising and maintaining a healthy weight, and appropriately addressing chronic stressors can all lead to reduced risk for many chronic conditions.

What is a confidence interval?

Statistics allow us to say something about the entire population based on the characteristics of a (typically randomly selected) sample of the population. Depending on a number of factors, we may be more or less certain that an estimate is close to the true value for the population.

We usually look at 95% confidence intervals, which tell us the range of values that we are 95% certain includes the true value for the population. Wider ranges of values around an estimate mean we are less certain about the estimate, narrower ranges mean we are more certain.

For example, the estimated rate of asthma in the Yukon population 12 and over is about 11%. However, the low and high 95% confidence intervals are about 8% and 13%, respectively. So, while the sample gives us an estimate of 11% for Yukon, we can only say with 95% confidence that likely between 8% and 13% of the Yukon population have asthma.

For Canada, on the other hand, the estimate is about 8%, and we are 95% confident that the true figure lies between 8% and 9%.

If the confidence intervals between two groups don't overlap, we can be fairly confident that there is a real difference between the groups.

Communicable Diseases

Communicable diseases, or infectious diseases, are illnesses that can be spread from one person to another. Thirty-five communicable diseases are regularly monitored by territorial, national and international agencies with the goal of reducing future incidents. Data on recent trends in these select diseases in Yukon are shown in this section.

There are four main categories of communicable diseases that are tracked:

Diseases transmitted by direct contact and respiratory routes are respiratory tract illnesses such as the common cold, influenza, pneumonia and strep throat that are usually spread through the air or via contaminated surfaces. Frequent hand-washing is one of the most effective ways to combat these diseases. Most respiratory illnesses are mild, not reported, and are not seen in clinic or hospital. Table 4 shows rates of four serious respiratory diseases. The rates of these diseases vary substantially from year to year. This is partially due to the infectious nature of these diseases; when they emerge in a particular location they can cause a local outbreak that is reflected in higher numbers for one specific year. The fluctuation in disease rates is also due in part to Yukon's small population; the change of even a small number of cases in a year can have a large effect on overall rates. Finally, rates can be influenced by the number of people being tested for a disease; reported disease rates can be lower than the "actual" rate if a significant number of people carrying the disease are not being tested or treated; and conversely, increased testing due to increased awareness or health promotion campaigns may suggest increased rates where no real increase occurred.

Table 4: Diseases Transmitted by Direct Contact and Respiratory Routes (2007-2012)

	Rate per 100,000 population per year					
	2007	**2008**	**2009**	**2010**	**2011**	**2012**
Influenza (laboratory confirmed)	121.9	90.9	497.1	2.9	31.4	285.7
Invasive Group A Streptococcal	0.0	9.1	0.0	5.7	0.0	0.0
Invasive Strep Pneumoniae	21.9	12.1	20.6	2.9	17.1	5.7
Tuberculosis	9.4	24.2	11.8	17.1	11.4	2.9

Source: Yukon Communicable Disease Control. 2013. Communicable Disease rates per 100,000 population. 2007 to 2012. Prepared by L. Strudwick. February 2013.

Enteric, food and waterborne diseases include illnesses such as Hepatitis A, giardia, and E. coli infections. Infection is transmitted among people or from animals to people when there is contact with infected fecal matter, usually carried in food or water. Practicing good sanitation in handling and preparation of food is one of the most effective ways of preventing enteric infections. In Yukon, public drinking water is treated and regularly tested. In the rare cases that water samples indicate contamination, boil-water advisories are issued to prevent infection. In the five years comprising 2008 to 2012, there was a total of four boil water advisories issued for public water drinking systems. Of the reported enteric diseases, Giardiasis (giardia) consistently has the highest rates and is frequently associated with drinking untreated water (such as from lakes or streams).

Table 5: Enteric, Food and Waterborne Diseases (2007-2012)

	Rate per 100,000 population per year					
	2007	2008	2009	2010	2011	2012
Camppylobacteriosis	12.5	6.1	17.6	11.4	28.6	5.7
Cryptosporidiosis	12.5	0.0	0.0	0.0	0.0	0.0
Giardiasis	53.1	39.4	29.4	34.3	34.3	22.9
Hepatitis A	0.0	0.0	2.9	0.0	0.0	0.0
Salmonellosis	6.3	15.2	8.8	5.7	0.0	8.6
Shigellosis	0.0	6.1	0.0	2.9	5.7	0.0
E.Coli 0157:H8	3.1	3.0	5.9	2.9	2.9	0.0

Source: Yukon Communicable Disease Control. 2013. Communicable Disease rates per 100,000 population, 2007 to 2012. Prepared by L. Strudwick, February 2013

Sexually transmitted infections in Yukon are numerous. Chlamydia rates in the territory are typically two to four times the national rate, and they peaked in 2007 at 740.6 new cases per 100,000 people. Reported rates of syphilis, HIV and Hepatitis C have generally been lower in the last five years than they were in the early 2000s. However, as HIV and Hepatitis C tend to be chronic diseases, much of the increased rates in the earlier years may have been due to finding cases previously undiagnosed cases, whereas actual rate of new cases per year may have remained relatively constant.

Table 6: Laboratory-Confirmed Sexually Transmitted and Blood-Borne Infections (2007-2012)

	Rate per 100,000 population per year					
	2007	2008	2009	2010	2011	2012
Chlamydia	740.6	703.0	632.4	654.3	600.0	502.9
Gonorrhea	53.1	51.5	44.1	88.6	20.0	25.7
Syphillis	0.0	0.0	8.8	0.0	0.0	5.7
HIV	0.0	6.1	8.8	2.9	2.9	2.9
Hepatitis C	128.1	87.9	94.1	60.0	62.9	60.0

Source: Yukon Communicable Disease Control. 2013. Communicable Disease rates per 100,000 population, 2007 to 2012. Prepared by L. Strudwick, February 2013

Diseases preventable by routine immunization include mumps, pertussis, measles and a number of other highly infectious and sometimes devastating illnesses. For many of these diseases, the goal is complete eradication. This was successfully done in Canada with smallpox in 1979, and polio is at this time tantalizingly close to global eradication.

Between 2005 and 2009, there were no new cases of Hepatitis B reported, although it reappeared in both 2010 and 2012. Pertussis, or whooping cough, also made a comeback in 2012 after being unreported for the four previous years. After no reported cases since 1998, mumps was seen in Yukon in 2010 but was not reported again for 2011 or 2012. No cases of measles, rubella and haemophilus influenza B have been reported since the mid to late 1990's, while acute flaccid paralysis (polio and other diseases) has never been reported in the territory.

Table 7: Diseases Preventable by Routine Immunization (2007-2012)

	Rate per 100,000 population per year					
	2007	2008	2009	2010	2011	2012
Hepatitis B	0.0	0.0	0.0	14.3	0.0	8.6
Pertussis	3.1	0.0	0.0	0.0	0.0	157.1
Measles	0.0	0.0	0.0	0.0	0.0	0.0
Mumps	0.0	0.0	0.0	2.9	0.0	0.0
Rubella	0.0	0.0	0.0	0.0	0.0	0.0
Acute flaccid paralysis	0.0	0.0	0.0	0.0	0.0	0.0
Haemophilus Influenzae B	0.0	0.0	0.0	0.0	0.0	0.0

Source: Yukon Communicable Disease Control. 2013. Communicable Disease rates per 100,000 population, 2007 to 2012. Prepared by L. Strudwick. February 2013.

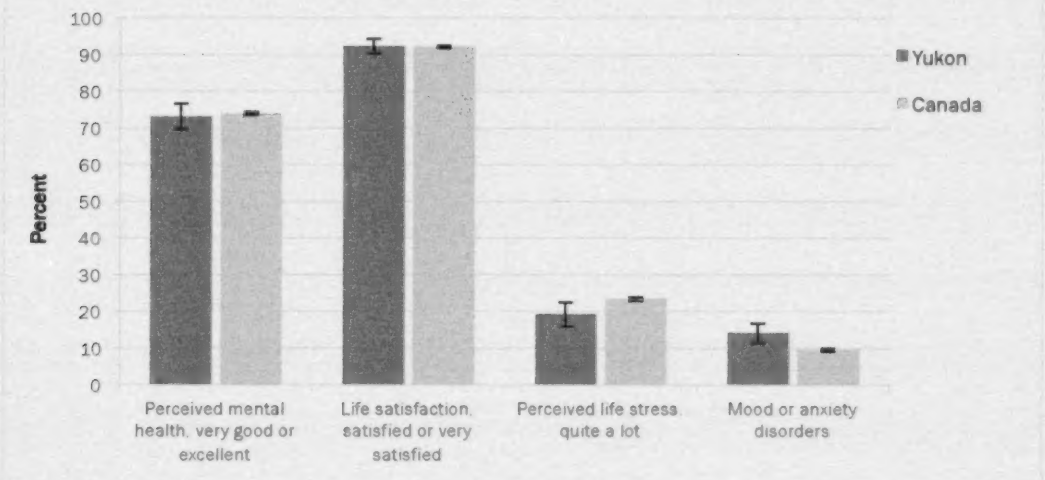
Mental Wellbeing

Mental wellbeing is a critical part of being healthy. The World Health Organization defines mental health as "a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community."[5] It is important to understand that mental wellbeing and mental illness are two completely different concepts. Mental illness is characterized by diagnosable disorders such as anxiety and depressive disorders, schizophrenia, and bipolar disorder. In contrast, mental wellbeing does not refer to the presence or absence of a disorder, but instead a state or absence of wellbeing; in this way, mental health is achievable by those with or without mental illness.

In Yukon in 2009/10, around 73% of people ages 12 and over reported their mental health as being "very good or excellent". Only around 6% reported their mental health as "fair" or "poor". The proportions were similar for both males and females. Life satisfaction is another way to indicate whether people have sufficient mental wellbeing to live fulfilling and productive lives. As of 2009/10, over 92% of the Yukon population, and around the same percentage across Canada, reported being "satisfied or very satisfied" with life.

Perceived life stress can erode mental wellbeing, and chronic stress is linked to health conditions such as heart disease and high blood pressure. High levels of stress may also contribute to unhealthy behaviours such as smoking and excessive alcohol consumption.[6] Among Yukon residents ages 12 and over, just over 19% reported high stress levels. This was slightly lower than the Canadian average of 23.4%. A different relationship was seen for mood and anxiety disorders, which were higher in the Yukon population (around 14%) than the Canadian average (9%).

Figure 5: Self-Reported Mental Health Status, Population Ages 12 and Over (2009/10)



Source Statistics Canada. 2013. CANSIM Table 103-0553

Injuries

Injuries can vary in severity. Most injuries are minor and are never seen by health care professionals. Injuries requiring treatment may show up in community health centres or the emergency room, or in extreme cases may result in a fatality.

Data is available to help us understand injury-related mortality. Unintentional injuries are one of the top two causes of death for people up to age 39. Among 15- to 24-year-olds, nearly 40% of deaths in 2009 were attributed to injuries, while more than 20% of deaths among 1- to 14-year-olds were injury-related.[7] As noted in the section on Life Expectancy and Mortality, the mortality rate associated with accidents in Yukon is substantially higher than in Canada: 70.9 versus 25.4 fatalities per 100,000 population. For most age groups, males were more likely to sustain an injury that resulted in death.

Part 2 of this report presents data on injuries among children and youth that required treatment at the emergency department. Injuries among youth are common: between 2009 and 2011 there were almost 4,400 initial visits to the emergency department in Whitehorse for injuries among Yukon children up to age 18 (initial refers to the first visit to the emergency department and does not include any follow-up visits required for that injury).

However, there is little data available overall to help us identify patterns and repercussions of injuries--a gap that is critically important given the toll that injury takes on all segments of our population. A better system of identifying and classifying injuries would help us in a number of ways and act as a type of "risk surveillance" system.

Risk Behaviours

Encouraging and supporting people in making healthy choices may benefit not only individuals and their families, but also communities and society as a whole.

Certain risk behaviors are linked with an increased likelihood of adverse health outcomes. Excessive alcohol consumption can put an individual at risk of heart disease, cancer and depression; risky sexual practices can lead to sexually transmitted infections, and tobacco use is associated with lung cancer and heart disease.

These behaviors also carry an impact beyond the individual who participates in them. Family members and friends are often affected through stress and financial strain, and personal safety may be compromised. At the community level, negative risk behaviors such as addictions, inactivity, tobacco smoking and unhealthy eating practices ultimately contribute to the cost of health services and can sometimes lead to increased absenteeism and unemployment.

Alcohol Use

While moderate alcohol use is generally not problematic, excessive alcohol consumption—and binge drinking in particular, defined as having five or more drinks on one occasion—is associated with a large number of adverse health outcomes including increased risk of injuries, sexually transmitted diseases, alcohol poisoning and Fetal Alcohol Spectrum Disorder. As of 2009/10, 48% of Yukon residents report binge drinking at some point in the previous 12 months, with 22% having done so more than once a month. This "frequent" binge drinking is much higher than the Canadian average of 12%. Males and females in Yukon were about equally likely to report having binged once a month or less (27% vs. 24%), but a much greater percentage of males reported binge drinking more than once a month (29% vs. 14%). There were minimal differences between binge drinking rates of urban and rural Yukon residents.

Tobacco Exposure

The risks associated with smoking (as well as consumption of other tobacco products) are well-known, and efforts to reduce or eliminate tobacco exposure in the Yukon population continue.

As of 2009/10, nearly 70% of Yukon residents aged 12 and over were non-smokers, while in Canada the share of non-smokers was even higher at 80%. About one-quarter of Yukon residents reported smoking daily, while an additional 7% smoked occasionally. Nationally, about 16% reported daily smoking, with an additional 5% reporting smoking occasionally. While across Canada the smoking rate has declined over the past decade, in Yukon there has been no clear trend.[8]

Non-smoking Yukon residents (ages 12 and over) were more likely than the national average to report being exposed to second-hand smoke at home: about 10% compared to 6% across Canada. Interestingly, despite higher rates for second-hand smoke at home, it appears that Yukon residents were somewhat less likely than the national average to be exposed to second-hand smoke in vehicles or public places: about 8% compared with 11% across Canada.

Food, Nutrition and Weight

A healthy, balanced diet is important for effective physical and mental functioning. Fruits and vegetables are key components of healthy eating. Research suggests that eating fruits and vegetables may reduce the risk of a number of chronic conditions including diabetes, cancer, heart disease and obesity.[9] Current recommendations are for adults to eat seven or more half-cup servings of fruits and vegetables a day.[10]

The Canadian Community Health Survey conducted in 2009/10 found that nearly half (49%) of Yukon residents reported eating at least five servings of fruits and vegetables a day, while nationally the share was slightly lower, at 44%. Women and urban Yukon residents were more likely to report meeting the guidelines than men or rural residents. These observations are complemented by data from the 2009 study conducted by the Recreation and Parks Association of Yukon (RPAY). In that study, three-quarters of adults felt they were making moderate to very healthy food choices. Almost 90% of participants reported eating vegetables every day or almost every day and about two-thirds indicated that they snacked on fruit, vegetables or nuts rather than junk foods such as chips or candy.[11]

Harvesting and gardening represent another important source of healthy foods for Yukon residents. Table 1 shows the percentage of Whitehorse and rural residents that obtain some of their food from home-grown or harvested sources. Over 20% of rural residents and over 8% of Whitehorse residents obtain more than 50% of the food they eat from home-grown or harvested sources.[12]

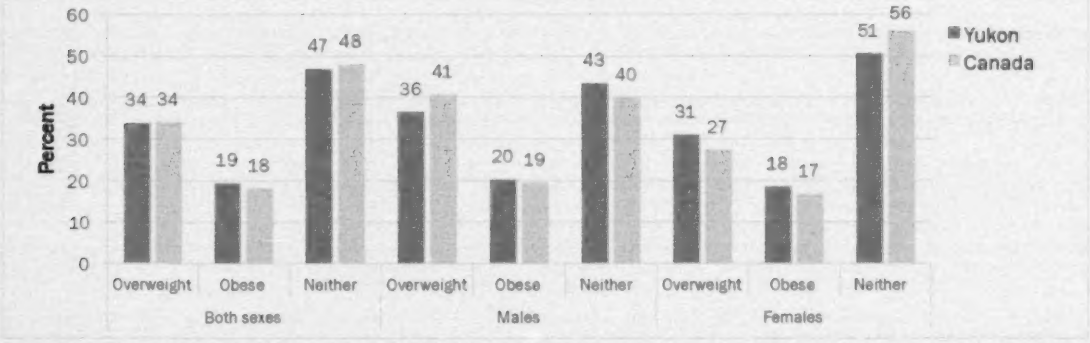
Table 8: Percent of households that obtain food from home-grown or harvested sources (2010)

	Whitehorse	Rural
Gardening	34%	44%
Animal farming	7%	7%
Berry picking	33%	52%
Hunting	33%	58%
Fishing	44%	62%

Source: Yukon Social Inclusion Household Survey 2010

In terms of body weight, very similar proportions of the population were normal weight, overweight and obese in Yukon compared with Canadian averages. As of 2009/10, 47% of the Yukon adult population was estimated to be normal weight or underweight, 34% were classified as overweight, and 19% as obese. Nationally, these figures were 48%, 34% and 18%. As shown in Figure 6, females were less likely to be overweight or obese than males.

Figure 6: Weight Classifications for Adults Ages 18 and Over (2009/10)



Source: Statistics Canada. 2011. Canadian Community Health Survey 2009-10 Share File. Custom Tabulation on BMI levels. Produced by R. Westfall. 2011.

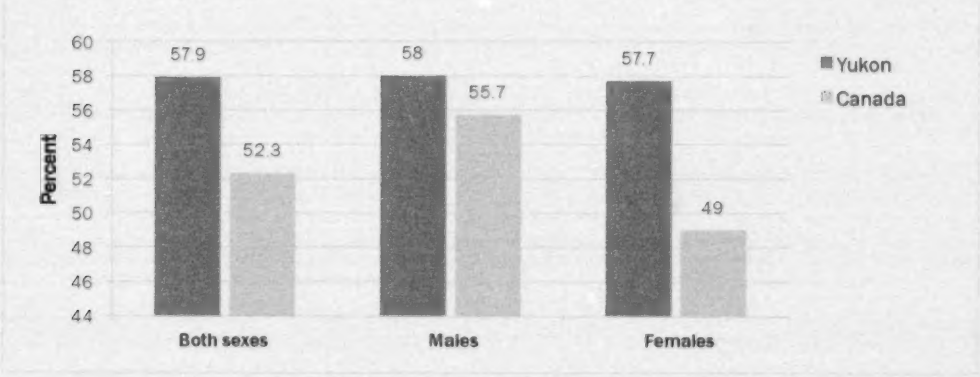
Physical Activity

Physical activity can have a number of benefits on both physical and mental health—from reduced risks for chronic conditions including cancer, stroke, cardiovascular disease and depression to reduced stress and improved self-esteem. A moderately active or active lifestyle can lead to improved wellbeing and a higher quality of life.

Compared with the rest of Canada, a greater proportion of Yukon residents ages 12 and over reported being active or moderately active in the Canadian Community Health Survey: almost 58% of Yukon residents compared with around 52% of Canadian residents. This difference is fuelled largely by the difference between Yukon and Canadian women. As shown in Figure 7, a much higher proportion of Yukon females reported being active than their national counterparts. Thus, while at the national level there was a notable gap between the activity levels of males and females, the same gap was not seen in Yukon. Across Canada, an estimated 56% of males were moderately active or active, compared to only 49% of females. In contrast, in Yukon about 58% of both men and women reported being moderately active or active.[11]

These results are also supported by findings from the RPAY study. About two-thirds of participants in that study reported being moderately or very active, and women and men were about equally likely to be moderately active (although men were more likely to be in the most active category).

Figure 7: Population Age 12 and Over That Report Being Active or Moderately Active (2009/10)



Source: Statistics Canada. 2012. CANSIM Table 105-0502

Health Care System Performance

There are challenges associated with delivering effective and equitable health care services across a wide, sparsely-populated geographic area. Although not every community has the same services available, most communities in Yukon contain Community Health Centres, and residents have access to a team of health care professionals with diverse skills.

On paper, Yukon appears to have a high rate of family physicians per capita. For example, in 2010, Yukon was estimated to have a rate of 180 family physicians per 100,000 population, which gave Yukon the highest rate of all provinces and territories that year.[13]

At the same time, lack of access to a family physician is a major issue in Yukon, with many people, even those with complex medical conditions, not being able to access regular primary medical care. Referral to specialist care is also particularly challenging when primary care is not available. How can this paradox between numbers and access to primary care be explained? There are probably several factors. One is that as described below, specialist services are relatively sparse compared to Canadian norms. Thus, family doctors have a more demanding role than their Southern counterparts, caring for patients who would often be under the care of specialists in more urban parts of the country. In addition, many physicians in Yukon work in shared practice or part-time arrangements. Numbers of family physicians in national reports do not account for full-time versus part-time positions.

Resident specialist physicians (such as surgeons, anesthetists, cardiologists, etc.) are in much shorter supply in Yukon than in the provinces, with only the other two territories having lower rates per capita. The estimated rate of specialist physicians per 100,000 people in Yukon in 2010 was 29 compared to 101 for all of Canada.[13] However, this figure does not include the 38 visiting physicians from other jurisdictions who visit Yukon regularly to provide specialist clinics in areas such as cardiology, oncology, neurology, gastroenterology and orthopedics.[14]

As of 2009/10, an estimated 83% of Yukon residents ages 12 and over had contacted a medical doctor in the past 12 months, similar to the estimate for all of Canada, which was 80.5%.[15]

Primary Health Care Nurses comprise a key part of the health care team in Yukon. Many Yukon residents living in smaller communities receive primary health care services from a Primary Health Care Nurse, with physicians consulted as needed.

Nurse practitioner legislation was enacted in Yukon as of December 2012, and the Yukon Registered Nurses Association will begin licensing nurse practitioners as of April 1, 2013. Nurse practitioners will add to the quality of primary care, and by working in collaboration with family doctors, access to patient-centered primary care should be improved. At the time of writing, there is one nurse practitioner working in Yukon's long-term care facilities. What remains to be seen is what other possible nurse practitioner roles will be implemented into the territorial health care system.

Health Care System Usage

Hospitalization for ambulatory care sensitive conditions is sometimes referred to as "avoidable hospitalizations." It provides an indication of the frequency with which people are hospitalized for conditions that normally could be treated in the community and therefore is used as an indicator of whether there is sufficient access to appropriate primary health care. As of 2010-2011 the age-standardized rate of hospitalizations for ambulatory care sensitive conditions per 100,000 people was 504 for Yukon. This was higher than the overall rate of 299 for Canada, though lower than the Nunavut rate of 913.[13]

The percentage of women delivering babies in hospital via Caesarean section is another indication of effective and efficient care. Caesareans are more costly for the health care system and the mother incurs greater risks and a longer recovery time. As of 2010-2011, the estimated rate of Caesarean sections in Yukon was 20%, which was a decrease from the 2007-2008 rate of 27% and was somewhat lower than the 2010-2011 rate for Canada, which was 26.9%.[13]

Hospital inflow/outflow ratios provide a measure of whether residents of a given region are receiving services in that region as opposed to receiving them elsewhere. A ratio of less than 1 indicates that some people had to leave the jurisdiction to receive the given service. The closer the ratio is to zero, the higher the share of people leaving the jurisdiction to receive the surgery. As of 2010-2011, the Yukon overall inflow/outflow ratio was 0.83, which represented a slight decrease compared to previous years. This may indicate a trend towards more specialization of health care delivery that requires use of tertiary care services in centres such as Vancouver, Edmonton, and Calgary. The ratio for bypass surgery and hip replacement was zero, indicating that these surgeries were performed entirely outside the territory.[13]

Table 9: Hospital Inflow/Outflow Ratio

	Overall	Bypass surgery	Hip replacement	Knee replacement	Hysterectomy
2010/11	0.83	0.00	0.00	0.51	0.88
2007/08	0.84	0.00	0.00	0.43	0.98
2004/05	0.89	0.00	0.00	0.50	0.95

Sources: Canadian Institute for Health Information. 2012. *Health Indicators 2012* and Yukon Health and Social Services. 2009. *Health Status Report 2009.*

Cancer Screening Tests

The availability and uptake of cancer screening tests is also a way to consider how Yukon residents make use of the health care system and how it may be the similar to or different from overall Canadian rates.

Screening for cervical cancer (a "Pap test") has been proven to increase the chance of early detection and improve outcomes. Current recommendations are for routine screening every three years for most women ages 25 to 69.[16] As of 2009/10, more than 90% of women in this age range in both Yukon and Canada have had a cervical cancer screening procedure at some point in their lives, and almost 80% of women in Yukon had been screened within the last two years.[17]

Colorectal cancer screening is another area where strong evidence-based guidelines exist. Current guidelines recommend testing every two years among 50-to-74 year-olds in the general population who have no additional risk factors. As of 2009/10, an estimated 34% of Yukon residents ages 50 to 74 had ever had a fecal occult blood test for colorectal cancer, while fewer than one quarter had been screened by this method in the previous 2 years. Colonoscopy or sigmoidoscopy was even less frequently reported, with only about 17% of 50-to-74 year-olds in Yukon reporting ever having had this type of test. Nationally, the

rates were somewhat higher, with about 48% of 50-to-74 year-olds ever having had a fecal occult blood test, and about 40% ever having had a colonoscopy or sigmoidoscopy. A review of Yukon's colorectal screening methods is currently underway with a view to improving the coverage of the population and the efficiency of the program.

Recommendations for screening for breast cancer via mammography were last revised in 2011. Current guidelines recommend:[18]

- For women ages 40-49, no routine screening
- For women ages 50-74, routine screening with mammography every 2-3 years

It should be emphasized that these recommendations refer to screening in the general population. Women with a high risk of breast cancer or who have symptoms that concern them are advised to speak with their physician about a breast exam.

In Yukon, among women ages 50-69, 62% had received a screening mammogram sometime in the previous 30 months, as of December, 2012. The screening rate for women in Whitehorse was 67%, whereas in the rural communities it was only 51%. Several factors appear to have influenced the lower participation rates in the communities. One common reason cited was a lack of a travel subsidy. As mammograms remain an important protective measure for women in this age group, it will be important to explore methods to increase participation, such as including screening visits in travel organized for other medical purposes.

Part 2: Focus on Children and Youth

Yukon Families

Children may live in a variety of familial arrangements and circumstances. When Statistics Canada looks at families, they use a definition called the "census family". A census family consists of a married or common-law couple (including same-sex couples) living with or without children; or a lone parent with at least one child living in the same dwelling; or grandparents who live with their grandchildren if the parents of the child are not present. Children in census families may be under or over 18 years old. In fact, more than 10% of census family children in Canada, and more than 8% in Yukon, were aged 25 and over in 2011. For this report, the focus is on children under age 18.

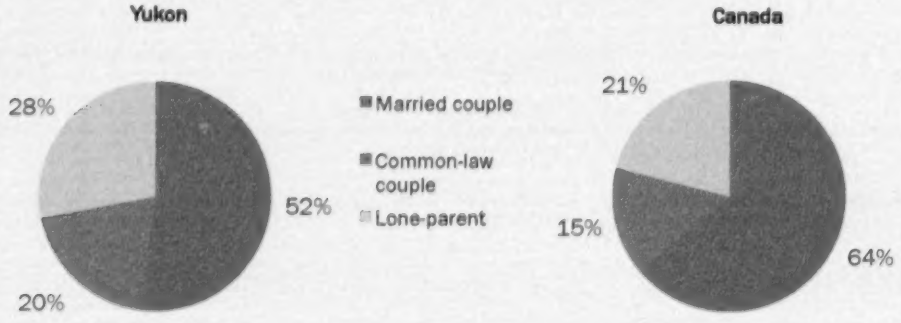
Family Status and Living Arrangements

At the individual level, children living with a lone parent or with non-relatives may be as healthy, happy and stable as those in two-parent families. However, having a high rate of children in these types of arrangements may suggest less stability in the community or fewer resources available to a significant share of children. As we'll see later in the report, lone-parent families, for example, are more likely than couple families to have relatively low incomes. It has been noted by a number of sources, including the World Health Organization, that poorer health outcomes are more common for those with relatively lower incomes or social positions (even if not classified as "in poverty" or low income by one of the typical measures).

In Yukon as of 2011, 99% of children under 15 years old, and 93% of children ages 15 to 17 were living with one or both parents or grandparents. Most of the remaining children in each age group were living with other relatives or non-relatives or were living alone, while a small number were living in collective dwellings.[19]

As shown in Figure 8, 72% of census family children under 18 years old in Yukon were living with a couple—either married or common-law—compared to 79% across Canada. About 28% of census family children under 18 years old in Yukon were living with a lone parent, compared with about 21% across Canada.

Figure 8: Family Structure of Children Ages 0 to 17 in Census Families (2011)



Source: Statistics Canada. 2012. 2011 Census Table 98-312-XCB2011030

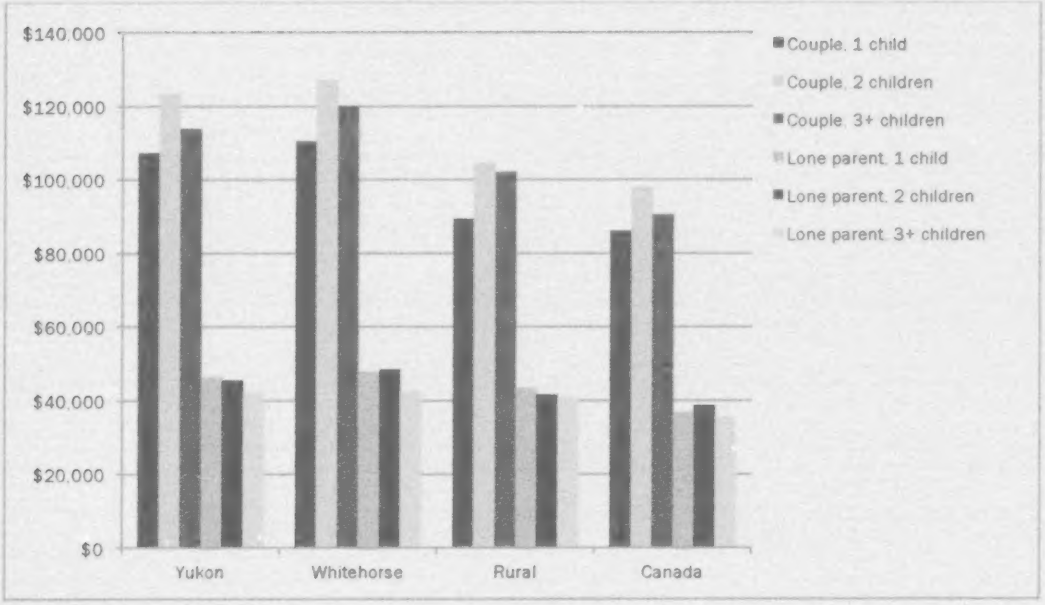
Family Income

The Public Health Agency of Canada has stated that income is the most influential determinant of health. Income is linked to a wide range of biophysical and mental health outcomes including birth weight and infant mortality, self-rated health, chronic conditions, infectious diseases, mental well-being, adult mortality and health service utilization.

Median family income is a measurement that describes the point at which half of all families have incomes below and half have incomes above the median. Yukon families fare well with respect to median income--Yukon families with children have higher median incomes than families with children in Canada overall, as shown in Figure 9.

However, there are important differences within the territory. The median income is higher among families in the Whitehorse area than among families in the rest of Yukon, regardless of family type or number of children. Figure 9 also demonstrates a strong difference in the median income of couple families and lone-parent families. As of 2010, the median family income for a couple with one child in Yukon was $107,050, while it was less than half that for a lone parent with one child, at $46,220, and this difference was exaggerated among families with two or more children. This relationship between family composition and income has implications for financial security and health equity for Yukon's children.

Figure 9: Median Family Income by Family Type and Number of Children (2010)



Source: Statistics Canada, 2012, CANSIM Table 111-0013

Note: Whitehorse CA, or Census Agglomeration, includes the city of Whitehorse, Lake Laberge, Mt. Lorne, Ibex Valley, Marsh Lake, Macpherson-Grizzly Valley and Whitehorse, Unorganized (a rural area surrounding Whitehorse).

Low income is another very relevant measure for health. Compared to families across Canada overall, families in Yukon were less likely to be categorized as low income. Among couple families the rates of low income in Yukon were less than half the national rates: just under 4% of Yukon couple families with children were classified as low income, compared with just under 9% for Canada. The rates for lone-parent families were higher: about 22% of Yukon lone-parent families vs. 31% across Canada, with increasing rates as the number of children in lone-parent families increased. Similarly, lone-parent families were about four times more likely than couple families to rely on some form of social assistance income.

Food Security

Food security measures the extent to which households can afford to purchase the quantity, quality and variety of food they need. Food insecurity is linked to the financial hardship that many families face, but also has independent links to adverse health outcomes, including hunger and nutritional inadequacy.

Data from the Yukon Social Inclusion Household Survey indicate that about 21% of Yukon residents were experiencing at least one element of food insecurity in 2010.[20] As shown in Figure 10, young adults (ages 18 to 24) were more than twice as likely as older adults to report food insecurity. Single parents were also more likely to report experiencing food security issues than other family groups, with just over 40% of single parents estimated to be experiencing one or more element of food insecurity in 2010. Income was also a key factor; more than 60% of households with incomes less than $30,000 reported elements of food insecurity, more than double the rate among households with incomes of between $30,000 and $60,000.

How is low income measured?

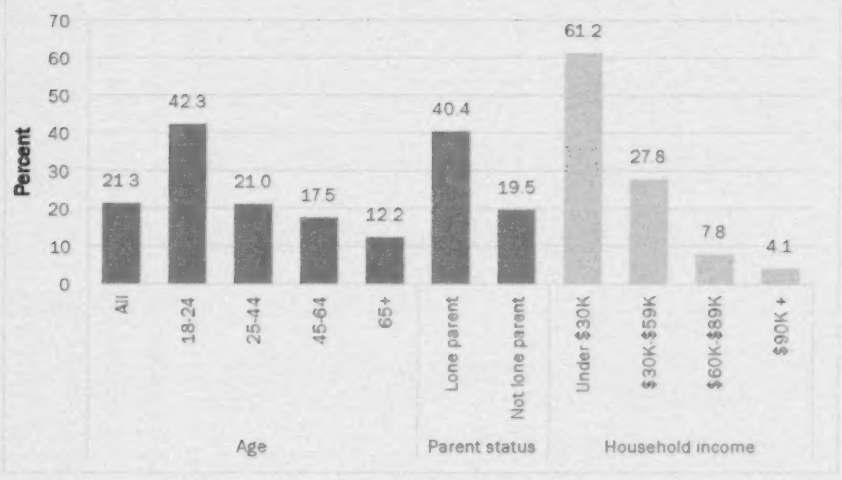
Low income can be measured in several different ways. However, there is generally no absolute dollar value that constitutes low income. Rather, different measures assess low income with reference to different family sizes and compositions, and in specific economic contexts.

Low-income cut-offs (LICOs) indicate the level of income at which a family would have to spend 20% more of its income on food, shelter and clothing than the average. LICO is calculated for different family and community sizes.

Low-income measures (LIM) are commonly used for international comparisons. LIM simply identifies families as low income if the family's income is 50% or less of the median. LIM is adjusted for family size, considering "economies of scale".

The *Market Basket Measure (MBM)* measures the cost of essential goods and services important to health and reasonable participation in community life. MBM can be are typically calculated by community size. An adjustment is made based on size of family.

Figure 10: Households Experiencing at Least One Element of Food Insecurity (2010)



Source: Westfall, R. 2010. *Dimensions of Social Inclusion and Exclusion in Yukon, 2010*. Yukon Health and Social Services.

Material Deprivation

Another element of family wellbeing is the ability of families and individuals to afford the things they need. Material deprivation indicates the difficulty experienced in affording items such as dental care, appropriate clothing (for work, school or job interviews), gifts, hobbies and a computer with internet.[20]

Overall, material deprivation was more likely to be experienced by youth (aged 18 to 24), seniors (ages 65 and over), people who were single and single parents. For each of these groups more than 40% reported experiencing material deprivation, while the comparison groups were typically in the 20% to 30% range. Strikingly, over 80% of those whose household incomes included Social Assistance reported material deprivation.[20]

The Yukon Social Inclusion Household Survey also asked questions specifically about the ability of parents to afford school supplies and extra school activities (such as field trips). Just over 11% of Yukon parents reported difficulties in affording school supplies and other school expenses, with much higher rates among parents whose household income included Social Assistance (~57%) and lone parents (~30%).

Housing Affordability

The amount of income a household spends on housing costs—including mortgage or rent payments, heat and utilities—can have an impact on the household's quality of life and financial security. Typically, when housing costs exceed 30% of household income, that household is considered to be facing affordability issues.

As of 2006, households in Yukon were less likely than those in Canada as a whole to face affordability issues. Just under 25% of households across Canada were spending 30% or more of household income on housing costs, compared with only 18% of Yukon households.[21]

Both nationally and in the territory, lone-parent family households and non-family households were more likely than couple and other family households to face affordability issues. However, for all household types, Yukon households were less likely to report these issues than their national counterparts.

Since 2006, housing prices have increased rapidly in Yukon while median incomes have risen more slowly.[22] Housing affordability, low vacancy rates and homelessness have become a major social issue in Yukon--and particularly in Whitehorse--and one with important implications for the health of both adults and children.

Yukon Children

Infancy and Early Childhood

The first few years of life are crucial in the development of children. During this time, social and environmental factors shape children's future school performance, social development, and emotional and physical wellness. Supporting mothers in making healthy choices during pregnancy and infancy may improve outcomes for both the mother and the child.

Pregnancy and Birth

Folic acid

Folic acid is a vitamin that is critical for healthy normal development of the spine, brain and skull in the fetus. Deficiencies in folic acid levels in the mother are associated with increased risk for certain kinds of birth defects and may result in stillbirth or lifelong disability for the infant. Although folic acid (folate) is found naturally in many foods, in order to reduce risk women are recommended to take a folic acid supplement before becoming pregnant and to continue at least for the first few months of pregnancy.[23]

Both nationally and in Yukon, an estimated 60% of women who had been pregnant in the five-year period prior to 2009/10 had taken folic acid before becoming pregnant.[24]

Smoking during pregnancy

Smoking while pregnant is a known risk factor for giving birth to babies who are lower than average in weight, putting these babies at increased risk for infection or other problems. The risks of miscarriage and stillbirth are also higher for women who smoke during pregnancy, in addition to posing risks to the mother's health.[25]

Nationally, around one-fifth of mothers who had given birth in the five-year period prior to 2009/10 had smoked at least occasionally during their pregnancies.[26] This means potentially one-fifth of infants and mothers were at risk for tobacco-related complications during and after birth. The figures for Yukon appear to be higher than the national estimates.

Pre-term birth

Infants born early, before the pregnancy has reached 37 weeks, are at increased risk of low birthweight, which puts those infants at increased risk of health complications. An estimated 75% of deaths in newborns are attributed to premature birth. Babies who were born prematurely may be more prone to health issues even as they move into childhood and beyond, particularly if they are born before the 25th week of pregnancy. Among the modifiable risk factors associated with pre-term birth are smoking during pregnancy, strenuous work and the mother herself being underweight.[27]

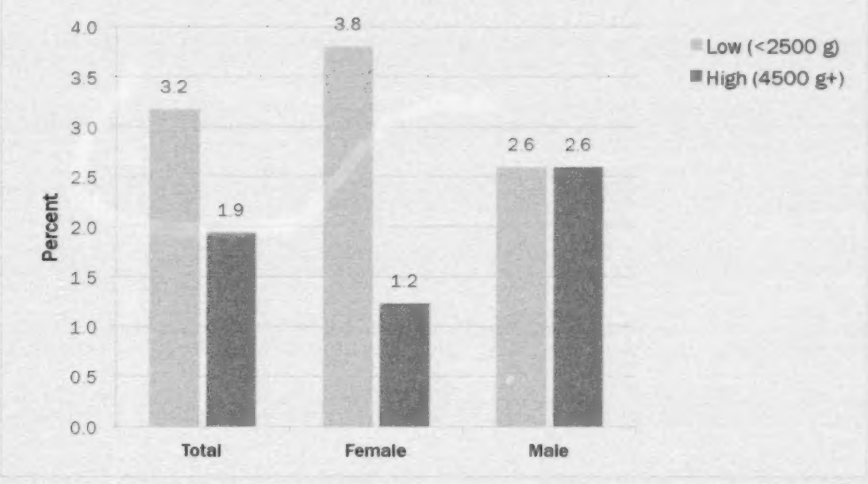
During the 10-year period from 2003-2012, an estimated 7% of Yukon births were pre-term.[28] National data (which may not be exactly comparable) suggest that a similar average of 7.8% of Canadian births were pre-term for the three-year period of 2005-2007.[29]

Low and high birthweights

Low birthweight (infants weighing less than 2,500 grams) is an undesirable outcome, as it puts the baby at increased risk for chronic health problems. Despite the estimate that 7% of births in Yukon between 2003 and 2012 were pre-term, only about 3% of births during that same time period were recorded as low-weight. This may be in part because most of the pre-term births were close to full-term (35 or 36 weeks), although the data that are available don't allow for a full explanation.

High birthweight (infants weighing more than 4,500 grams) can also carry complications, such as an increased risk of diabetes later in life. During the 2003-2012 period, high birthweight in Yukon was even more rare, representing only about 2% of births recorded by Yukon Vital Statistics.

Figure 11: Low and High Birthweights (2003-2012)



Source: Yukon Bureau of Statistics. 2013. Live Births Recorded in Yukon by Birth Weight of Infant. Yukon Vital Stats. 2003-2012. Produced by S. Markley. 2013.

Infancy

Breastfeeding

Breastfeeding is beneficial for infants. Breastfeeding has been shown to improve the resistance of infants to infection and illness as the antibodies of the mother are passed to the child through the breast milk. Breastfeeding may also have long-term benefits for the child, including reduced risk of chronic conditions such as high blood pressure and obesity.[30]

Yukon mothers were significantly more likely than those in Canada as a whole to at least attempt breastfeeding. As of 2009/10, an estimated 97% of Yukon women who had had a baby in the previous five years reported initiating breastfeeding, compared to about 87% nationally.[15] An estimated 38% of Yukon women continued breastfeeding for at least six months, compared to about 26% of women nationally.[15]

The evidence on the impact of alcohol use while breastfeeding is mixed. There are known risks to both mother and infant if the mother consumes alcohol frequently and heavily, but the evidence on the risk of

moderate alcohol use is unclear. However, given this uncertainty, Yukon's current guidelines advise that for nursing mothers, the safest choice is to drink no alcohol at all.[31]

At a national level, about 20% of mothers (who had given birth in the last five years) were estimated to have reported drinking alcohol while breastfeeding. However, the data are variable, and the confidence interval suggests that the true figure may lie anywhere between 15% and 25%. For Yukon mothers the range is even wider, with confidence intervals suggesting that between 9% and 34% of Yukon mothers drank alcohol while breastfeeding.

Infant mortality

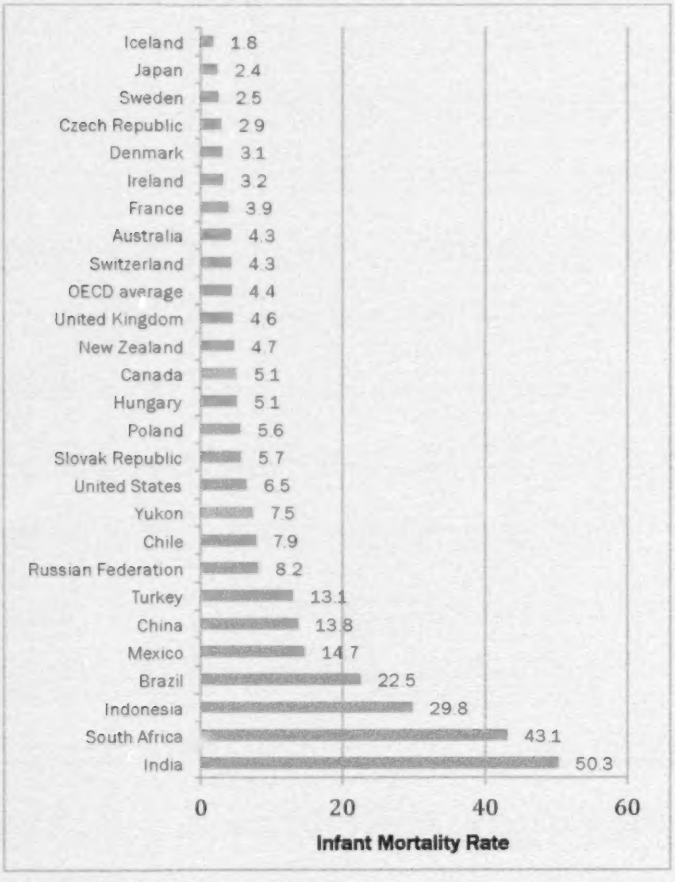
Infant mortality is often used as an indicator not only of child health, but also to compare overall health and health equity across different regions.[32]

Happily, infant mortality is a now rare outcome in Canada and in Yukon. However, this means that the calculation of the infant mortality rate in Yukon can be affected by the very small numbers involved (generally 1 to 3 infant deaths in Yukon in a given year). To try to minimize the impact of this annual fluctuation, rates are presented using a 10-year average.

For the 10-year period from 2002 to 2011, the average annual infant mortality rate in Yukon was about 7.5 infant deaths per 1,000 live births.[33] Nationally, the average infant mortality rate for the most recent 10 years available (2000 to 2009) was lower, at 5.2.

For comparison, Figure 12 shows infant mortality rates for selected countries in 2009, along with the average for other OECD countries.

Figure 12: Infant Mortality Rate per 1,000 Live Births for Selected Countries (2009)



Source: Country data from: Organization for Economic Cooperation and Development. 2011. Health at a Glance 2011: OECD Indicators. OECD Publishing.

Early Childhood (0 to 4 Years)

As a child moves from infancy into early childhood, there are a number of factors that can influence their health and development throughout childhood and on into adulthood. Parenting practices, safe environments (at home and elsewhere), family income and stability are among the key aspects that affect social, emotional and mental well-being in young children.[34] Not only the children themselves but all of society obviously benefits from promoting environments that are safe, nurturing and intellectually stimulating, while reducing the risks of injury, illness and sub-optimal development in young children.

Immunization

Immunization has led to reduced child mortality related to a number of infectious diseases, and is most effective when a high proportion of the population has been immunized. Gaps in immunization coverage can lead to local and regional outbreaks of diseases that can have serious risks for young children. Canada has set targets of 97% immunization coverage for rubella, 95% for pertussis (whooping cough) and 90% for pneumococcal diseases (including meningitis), but has seen outbreaks in both rubella and pertussis in

recent years. Ensuring high rates of immunization both reduces the risk of these outbreaks and reduces future costs to the health care system.[34]

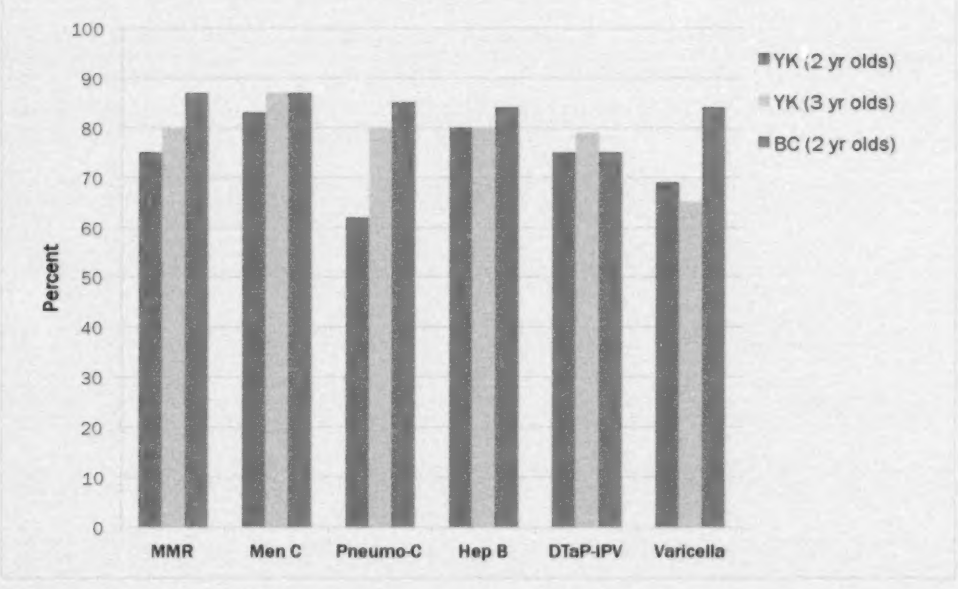
Children less than one year old are especially sensitive to the effects of communicable illnesses. Fever, dehydration and other symptoms can all be more serious and severe in infants. Current recommendations are for children to have received the following vaccines by 12 months of age:

- 3 doses of DTap-HB-IPV-Hib (to immunize against Diphtheria, Tetanus, Pertussis, Hepatitis B, Polio, and Haemophilus Influenza type B), with an additional dose at age 18 months
- 1 dose of MMR (for measles, mumps and rubella)
- 2 doses of Men C (for meningitis)
- 3 doses of Pneumo C (for invasive pneumococcal disease)
- 1 dose of Varicella (for chicken pox)
- 3 doses of Hepatitis B
- 2 doses of Rotavirus
- An annual flu shot is also encouraged

The rate of immunization is encouragingly high for the diseases covered by the DTap-HB-IPV-Hib vaccine (95% of children receiving the first dose by age 12 months) as well as for immunization against meningitis (94%), pneumonia (94%) and Hepatitis B (89%). However, for those immunizations requiring multiple doses, the rate falls off with each successive dose. The uptake is lower for measles, mumps and rubella, which saw only an 80% immunization rate. The chicken pox vaccine (varicella) had the lowest rate of uptake, with only 59% of 1-year-olds having received immunization in 2011.[35]

Some parents may (deliberately or inadvertently) postpone immunization, but catch up when their children are between 2 and 3 years old, particularly if the children are entering childcare. Figure 13 shows the percent of 2-year-olds and 3-year-olds in Yukon who were up to date on immunization in 2011. For comparison, the figure also shows the immunization rate for 2-year-olds in British Columbia. In most cases, British Columbia had slightly higher rates of immunization than Yukon, with the most notable gap being for Varicella. In general within Yukon, children living in rural areas were more likely to be up-to-date on their immunizations than children living in Whitehorse.

Figure 13: Children Up-to-Date for Immunizations at Ages 2 and 3 (2011)



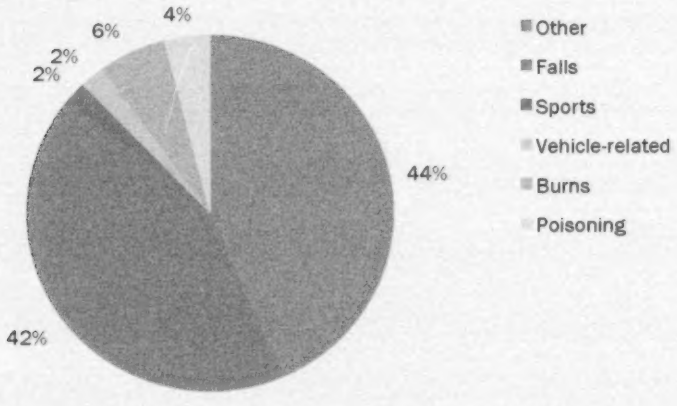
Sources: Yukon Communicable Disease Control. 2012. Custom Tabulations produced by L. Strudwick; and BC Centre for Disease Control. 2012. Percent of two-year-olds with up-to-date immunizations. Retrieved from http://www.bccdc.ca/imm-vac/BCImmunizationCov/2ndbirthday/default.htm February 13, 2013.

Injuries

Injuries are the leading cause of death among children in Canada, and are a common reason for emergency department visits both nationally and in Yukon.[36] Minimizing access to hazards, properly installing car seats, teaching children how to play safely and ensuring adequate supervision are among the ways we can reduce the risks to our children.

Between 2009 and 2011, there were an estimated 940 visits to the Whitehorse General Hospital emergency department (ED) for injuries among children ages 0 to 5 years. Figure 14 shows the main causes of these ED visits. Falls—including falls from playground equipment, from beds and chairs, or due to slipping or stumbling—were the largest single cause, associated with 42% of ED injury visits in this age group. About 6% of the injury visits for this age group were related to burns, largely due to contact with hot appliances, hot food or hot drinks. About 4% of visits were due to accidental poisoning, including ingesting drugs or other household chemicals. The largest grouping of causes associated with these injuries was the catch-all "other" category, which included everything from cuts and bee stings to being struck by falling objects or exposed to excessive cold.

Figure 14: Emergency Department Visits for Injuries to Children Ages 0 to 5 by Major Cause, Whitehorse General Hospital (2009-2011)



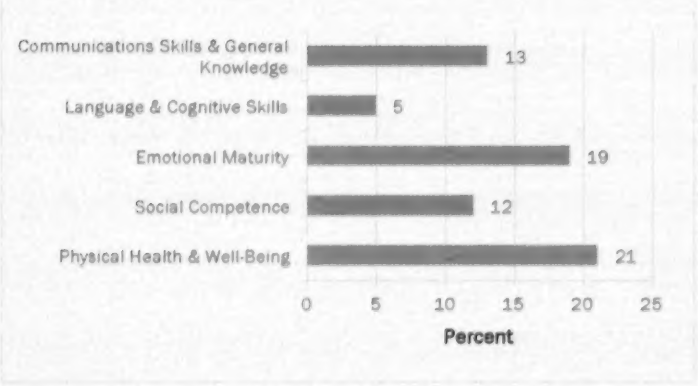
Source: Canadian Institute for Health Information. National Ambulatory Care Reporting System (NACRS Database) Custom Extraction – Summary data for 0- to 5-year-olds. 2009 to 2011.

School readiness

Getting a strong start at school may improve the chances of good performance throughout a child's school career and can have positive impacts on career possibilities and other aspects of adult life. In order to evaluate the readiness of Yukon's children, the department of Education adopted the Early Development Instrument, which looks for vulnerability in five areas that may affect success at school. The evaluation is conducted at five years of age, but the results provide an indication of the general quality of pre-school development among Yukon's youngest children.

Based on the 2011-12 Early Development Instrument results, more than one fifth of Yukon's kindergarten students were vulnerable in the area of Physical Health and Well-Being. Examples of traits considered under this category include having well-coordinated movements, being able to manipulate objects and not arriving at school hungry.[37] Emotional Maturity, which includes such characteristics as empathy and willingness to help others, was also a vulnerable area for nearly one-fifth of kindergarteners in 2011-12. An estimated 13% of kindergarten students in 2011-12 were rated as vulnerable in Communications Skills and General Knowledge, while 12% were rated as vulnerable in the area of Social Competence (which included traits such as the ability to work independently, getting along well with others and being interested in new things). Yukon kindergarten students were least likely to show vulnerability in Language and Cognitive Skills, with only 5% of children identified as vulnerable under this category. This means that 95% of kindergarten students in 2011-12 had at least basic literacy and counting skills.

Figure 15: Yukon Kindergarten Students Showing Vulnerability, Based on the Early Development Instrument (2011/12)



Source: Yukon Education. 2013. Custom extraction on EDI scores for 2011-12 - produced by A. Mahmoud. February 2013.

Middle Years (Ages 5 to 11)

Immunization

To keep children healthy, additional immunizations are recommended before children start school, at ages 4-6. Additional doses are recommended of the DTaP-IPV vaccine (to protect against diphtheria, tetanus, pertussis and polio), MMR (measles, mumps and rubella) and varicella (chicken pox).

By the time they were entering school, most children in Yukon were up-to-date on immunizations for MMR, Men C, and Hepatitis B, with more than 8 in 10 children in this age group having received the recommended doses of these vaccines. DTap and varicella immunization rates were somewhat lower, with closer to 6 in 10 children being up-to-date on these immunizations. Such a low rate is of particular concern given Yukon's recent pertussis outbreak when the majority of laboratory-confirmed cases occurred in the early to mid-teen years.

At these ages, there was no systematic difference in the pattern of immunization uptake between rural Yukon and Whitehorse.

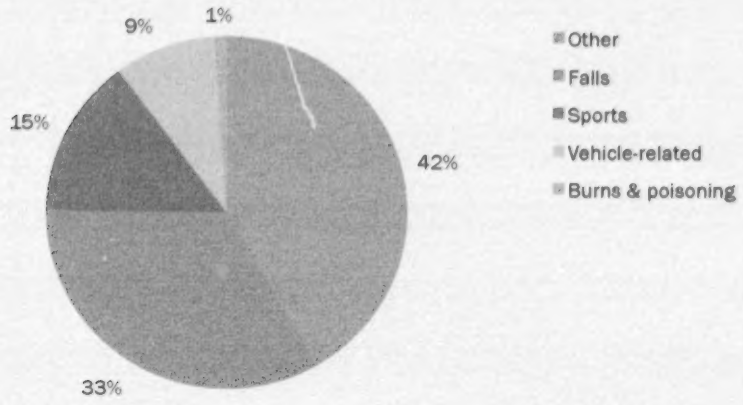
Injuries

Injuries remained an important cause of emergency department visits among children ages 5 to 11 in Yukon. Between 2009 and 2011 there were an estimated 1,250 visits to Whitehorse General Hospital's emergency department for injuries among children ages 5 to 11 years. Figure 16 shows the main causes of these ER visits. As with children ages 0 to 4, falls comprised the largest cause of ER visits, associated with 33% of visits in the 5 to 11 age group. Sports-related injuries comprised the second largest cause, accounting for an estimated 15% of ER visits among 5- to 11-year-olds. Vehicle-related injuries, which comprised only 2% of injuries among children ages 0 to 4, resulted in 9% of injury visits for 5- to 11-year-olds. By far, the largest sub-category of vehicle-related injuries was for bicycle-related injuries, for which

there were nearly 75 initial ER visits among this age group between 2009 and 2011 from an overall total of about 115 vehicle accidents.

Comparing the injury patterns between males and females at ages 5 to 11 shows that overall, boys in this age group visited the ER for injuries more frequently than girls, with boys accounting for about 58% of the initial visits. Sizeable gaps were seen between boys and girls for visits associated with bike injuries, off-road vehicle accidents and sports-related injuries in particular.

Figure 16: Emergency Department Visits for Injuries to Children Ages 5 to 11 by Major Cause, Whitehorse General Hospital (2009-2011)



Source: Canadian Institute for Health Information. National Ambulatory Care Reporting System (NACRS Database) Custom Extraction – Accidents in children 5 to 11 years old. 2009 to 2011.

School Achievement

Factors influencing success in school may vary from one child to another and can change over time. The level of school readiness in early childhood is one key factor, while parental and peer influences, relationships with teachers, and inherent abilities or challenges may all play a role. Research suggests that monitoring and investigating potential interventions for children facing difficulties in school early on may be one way to improve health outcomes later.[30]

Standardized achievement tests are one way to measure whether we are succeeding at giving our students the education they need, although it should be emphasized that test results alone do not provide a complete picture of knowledge and abilities among children. Some children may excel at tests but struggle in other important areas, while others who are capable and knowledgeable may do more poorly in a formal test scenario.

Results from the Yukon Achievement Test administered to students in Grade 3 in 2010-11 show that 69% of children achieved "success" in language arts with a further 9% achieving "excellence". In math, 58% of children overall achieved "success", and a further 16% achieved "excellence", as shown in Table 10.

These scores were compared with results for Grade 3 students in Alberta for the same year. The average scores of Yukon students on Grade 3 achievement tests were lower for both areas, with the average scores in Alberta around 7% higher for language arts and around 9% higher for math. It has been noted, however, that there are curriculum differences between Alberta and Yukon that may explain some of the difference.[38]

Table 10: Grade 3 Students who Achieved Success or Excellence on Yukon Achievement Tests (2011/12)

	Language Arts		Math	
	Excellence	**Success**	**Excellence**	**Success**
Grade 3 students	9%	69%	16%	58%

Source Yukon Education. 2013. Custom extraction on Yukon Achievement Test results in Grades 3, 6 and 9 for 2011-12 - produced by A. Mahmoud. February 2013.

Missing school can make it challenging for students to keep up. Given the importance of learning the basics before moving on to more advanced subjects, high numbers of absences in elementary school may be a concern. As of 2011-12, elementary school students in Yukon missed an average of 17 days, or more than three weeks of instruction, per student. Rural students were more likely to miss school than those in urban schools; while an average of 15 school days were missed by elementary students in urban schools, in rural schools the average was 26 days—more than one month of instruction.[39] The gap between rural and urban students may lead to more rural students falling further behind academically, potentially narrowing the field of opportunities for those students as they begin to work towards a career.

Physical Activity

Data on the health-related behaviours and choices of children under 12 years of age is limited. The benefits of physical activity are well-established and given increasing levels of childhood obesity at the national level, there is a renewed importance on ensuring our children are getting the activity they need. In addition to health benefits, physical activity may help children build or maintain high self-esteem, cope with stress, and may lead to better grades.[40]

The 2009 Kids CAN PLAY report indicates that Yukon children and youth (aged 5 to 19) took an average of 12,600 steps per day from 2007-2009.[41] This was higher than the national average, but below the recommended number of steps under either Canada's Physical Activity Guide (which suggests an equivalent of about 16,500 steps daily) or the 15,000-step criterion that has been developed based on health outcomes research. Depending on which guideline is referenced, between 59% and 86% of Yukon children and youth were not sufficiently active in 2007-2009.

The same report suggests that activity levels were lower for the older age groups, dropping from over 13,000 steps per day for 5- to 10-year-olds in Yukon, to just under 13,000 for 11 to 14 year olds, and only around 11,000 for 15- to 19-year-olds. Boys and those involved in organized activities were more likely to have higher step counts.

Data from the Recreation and Parks Association of Yukon study on healthy living found that Yukon children aged 5 to 17 were spending an average of 1.5 hours per day being active outside of school, according to parental reports. The study also found a strong polarization in relation to activity levels. In general, children and youth were either quite physically active or they were very involved in TV/Internet/gaming, with less than one-fifth spending about equal amounts of time on each.[11]

Youth (Ages 12 to 18)

Immunization

Selected vaccines are offered to students in Grade 6, giving those students who hadn't yet been immunized a chance to do so, as well as offering additional recommended doses for multi-part vaccines. As of 2011, more than 90% of Grade 6 students in Yukon had received immunization against tetanus, diphtheria and pertussis and against measles, mumps and rubella. The rates of coverage for other diseases were somewhat lower: 79% for Hepatitis B, and 64% for meningitis. The human papilloma virus (HPV) vaccine is relatively new and is offered to girls in Grade 6. As of 2011, the HPV vaccine had been received by 50% of Yukon Grade 6 girls. As with the younger groups, students in rural Yukon were more likely than those in Whitehorse to have been immunized, although the trend is reversed for HPV, where the coverage rates in Whitehorse were higher.

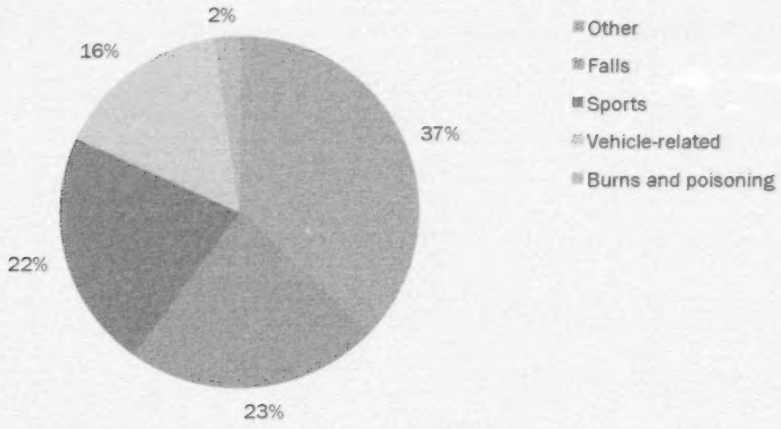
Injuries

Injuries among youth ages 12 to 18 were responsible for nearly 2,200 initial visits to the emergency department in Whitehorse from 2009 to 2011: around 1,500 visits among youth ages 12 to 16 and around 700 visits among those ages 17 and 18.

Figure 17 shows the main causes of these emergency department visits. Around 23% were related to falls, 22% were attributed to sport-related injuries, and 2% were for burns or accidental poisoning. Vehicle-related injuries accounted for 16% of total visits. Among those ages 12-16, vehicle-related injuries were dominated by bike incidents, which accounted for about 42% of vehicle-related injuries in this group. Of the road vehicle accidents in this age group, more than 37% were associated with riding motorcycles, and over 43% of road vehicle accidents involved off-road vehicles. Among those ages 17-18, passenger vehicles such as cars and trucks comprised the majority of road vehicle crashes, while bicycle-related incidents comprised less than 25% of vehicle-related injuries, and off-road vehicles accounted for 13% of road vehicle injuries.

"Other" reasons for emergency department visits included cuts, insect and dog bites, being struck or pinched by objects, as well as being struck by other people (in non-sports settings). Males were more likely than females to visit the emergency department for injuries—around 60% of the visits for this age group were for boys.

Figure 17: Emergency Department Visits for Injuries to Youth Ages 12 to 18 by Major Cause, Whitehorse General Hospital (2009-2011)

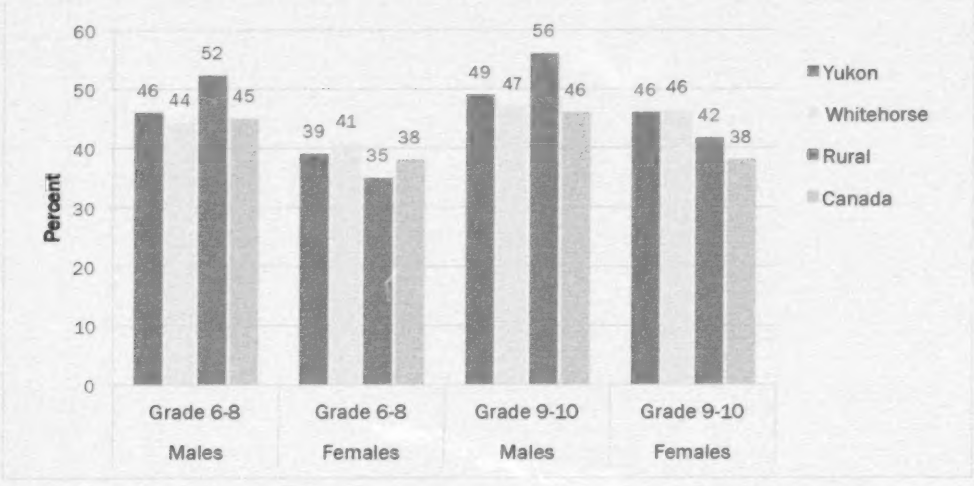


Source: Canadian Institute for Health Information. National Ambulatory Care Reporting System (NACRS Database) Custom Extraction – Accidents in children 12 to 18 years old, 2009 to 2011.

Injury data based on emergency department visits has limitations. One limitation is that multiple visits may be made by a single person, so the numbers of visits don't tell us what proportion of youth are being injured. For example, while there were about 1,470 unique visits by 12- to 16-year-olds from 2009-2011, these visits were associated with only 990 individuals. Another important factor is that many people who are injured may not visit the emergency department, but instead may be treated by their family doctor or community health professional, or not visit a health professional at all.

The 2009/10 Health Behaviours in School-Aged Children study presents information on self-reported injuries among youth. Figure 18 shows the percentage of students in Grades 6-8 and 9-10 who reported an injury requiring medical treatment over the previous 12 months. As with the data from emergency department visits, males were more likely overall to have reported an injury. For most age/sex groups, the rates of self-reported injury within Yukon and across Canada were similar.

Figure 18: Students Reporting an Injury During the Previous 12 Months (2009/10)



Source: Freeman, J., Saab, H, King, M, and Gropp, K. (2011). *Health and Health-Related Behaviours Among Young People in Yukon*. Government of Yukon.

School Achievement

The Yukon Achievement Test is also administered to students in Grades 6 and 9 as well as Grade 3. Table 11 shows the rates of students that achieved excellence or success in language arts and math on these tests.

Table 11: Students in Grades 6 and 9 Who Achieved Success or Excellence on Yukon Achievement Tests (2011/12)

	Language Arts		Math	
	Excellence	**Success**	**Excellence**	**Success**
Grade 6 students	5%	67%	13%	61%
Grade 9 students	6%	57%	8%	69%

Source: Yukon Education. 2013. Custom extraction on Yukon Achievement Test results in Grades 3, 6 and 9 for 2011-12 - produced by A. Mahmoud. February 2013.

Data from 2011-12 show that in secondary schools in rural Yukon, students missed an average of 47 days (or more than two months of instruction), compared to an average of 21 days for students in urban schools.[39] Students who miss a high number of days may have more difficulty on achievement tests, as well as in completing assignments and absorbing the material. A high number of absences may also be indicative of personal challenges or responsibilities that may distract from or interfere with academic achievement.

Graduation rates are also an important measure of educational achievement. Table 12 shows the percentage of Grade 12 students in the 2011/12 school year who graduated in that year. Across the territory, the average graduation rate was 77%. Going to school in a rural area was associated with a lower

graduation rate among Grade 12 students. Rural males seem particularly vulnerable in this respect, with only about half of those in Grade 12 graduating that year.

Table 12: Graduation Rates among Students Enrolled in Grade 12 (2012)

	Yukon	Urban	Rural
Total	77%	80%	61%
Male	79%	82%	52%
Female	76%	78%	68%

Source: Yukon Education. 2013. Custom extraction on graduation rates in Yukon Schools for 2011-12 - produced by A. Mahmoud. February 2013.

Another important measure of graduation is the 6-year completion rate. The 6-year completion rate tells us what percentage of students who were in Grade 8 in a given year completed secondary school (high school) within the next six years. The 6-year completion rate supplements the graduation rate shown in Table 12 by telling us about those students who never made it to Grade 12.

At the end of the 2011-12 school year, 70.7% of students who had been in Grade 8 six years earlier had graduated from secondary school. 5.7% of students were still completing their secondary studies, while 23.6% had dropped out sometime in the previous six years.[42]

Emotional and Behavioural Well-Being

Being connected socially to others, feeling well emotionally, and having the supports one needs are all important elements of overall well-being, particularly in youth. Problems in one or more of these areas can lead to or be associated with substance abuse, depression, anxiety and other mental health outcomes, as well as potentially affecting school performance and future health outcomes. The 2009/10 Health Behaviour in School-Aged Children (HBSC) study gives us a number of indications of how well Yukon's youth are doing in these areas.

Table 13: Emotional and Behavioural Well-Being (2009/10)

	Grade 6-8		Grade 9-10	
	Male	Female	Male	Female
Emotional well-being				
Highest score on emotional well-being scale	38%	35%	34%	18%
Highest score on emotional problems scale	30%	37%	26%	44%
Social behaviour				
Highest score on pro-social behaviour scale	16%	29%	21%	30%
Highest score on behaviour problems scale	36%	24%	40%	44%
Life satisfaction				
High score on life satisfaction scale	56%	55%	56%	40%
Bullying				
Students who reported being bullied by others in the past couple of months	63%	75%	53%	64%
Students who reported having bullied others in the past couple of months	60%	58%	56%	57%

Source: Custom tabulation on HBSC scales in Yukon, Whitehorse and Rural Yukon. Produced by K. Machalek. January 2013

The emotional well-being scale used by the HBSC asks respondents about a number of dimensions that include feeling fit, well and confident and having energy, fun with friends and a happy home life. Students who had an overall score of 4.01 (out of 5) were ranked as "high" on the well-being scale, and are considered to be doing relatively better in these dimensions than those who ranked lower.[43] Scores for emotional well-being are shown in Table 13. Yukon students in Grades 6-8 were less likely to score highly on emotional well-being than Canadian students as a whole (38% vs. 48% for males and 35% vs. 39% for females), although scores were closer for students in Grades 9-10 (33% vs. 32% for males and 18% vs. 22% for females). For most groups, students in Whitehorse were more likely to have a high emotional well-being score than students in rural areas. This gap was particularly large for female students in Grades 9-10: 20% of those in Whitehorse but only 6% in rural areas.

The flip-side of emotional well-being is the presence of specific emotional problems. The emotional problems scale rates students based on combined scores for internalizing symptoms such as self-reported depression, nervousness, sleep difficulties, loneliness, helplessness and other issues. In this case, a higher score indicates more reported emotional problems—those with scores of 2.77 or higher were ranked as "high" on the emotional problems scale relative to others.[43]

Social behaviours provide an indication of whether youth are able to establish and maintain good relationships. Students reported on whether they did favours or lent items to others without being asked, and on whether they helped others, gave compliments and shared. Like the emotional well-being scale, a higher score on the pro-social scale is preferable in that it suggests a greater degree of pro-social behaviour. As shown in Table 13 a higher percentage of girls than boys ranked highly on the pro-social scale. There were no clear differences between urban and rural areas in terms of pro-social behaviours, although students in Yukon generally scored lower than their Canadian counterparts.

Students who had higher scores on the behaviour problems scale were those who indicated they cut classes, made other people do what they wanted, talked back to teachers, got into fights, or took things that were not theirs. In both Yukon and Canada, those in the older grades were more likely to report high levels of behaviour problems than the younger students.

The 2009/10 HBSC asked students to rate their overall level of satisfaction in life, on a scale from 0 to 10. Those who rated their level of satisfaction as 8 or higher were considered to be highly satisfied with life, relative to others.[43] Results were roughly similar for males and females in Grades 6-8 and for males in Grades 9-10: about 55% reported a high degree of life satisfaction. Females in Grades 9-10 had a substantially lower figure: about 40%, which corresponds to lower levels of emotional well-being and a higher level of emotional problems among this group.

Bullying can influence the behaviours, relationships and emotions of both those being bullied and the aggressors.[44] Given these potential impacts, as well as national and international headlines connected to bullying in recent years, bullying is an important behavior to consider for youth in Yukon. Based on the 2009-10 HBSC, between half and three-quarters of students in Grades 6-8 and 9-10 reported having been bullied in the past couple of months. This was the case for males and females, urban and rural areas, and across Canada. Similarly, more than half of students in both grade groupings reported having bullied others in the past couple of months.

Risk Behaviours

The choices that our youth make in the areas of alcohol and tobacco use, diet, exercise, and sexual practices can have a large impact on their physical, mental and emotional health.

These younger ages are ideal times to establish healthy behaviours that may be much harder to adopt later in life. It is a natural and even healthy part of adolescence to take risks. However, the choice of risk behaviours—choosing to take risks based in activity and adventure versus choosing to take risks associated with addictive or destructive behaviours—can lead to very different health and life outcomes.

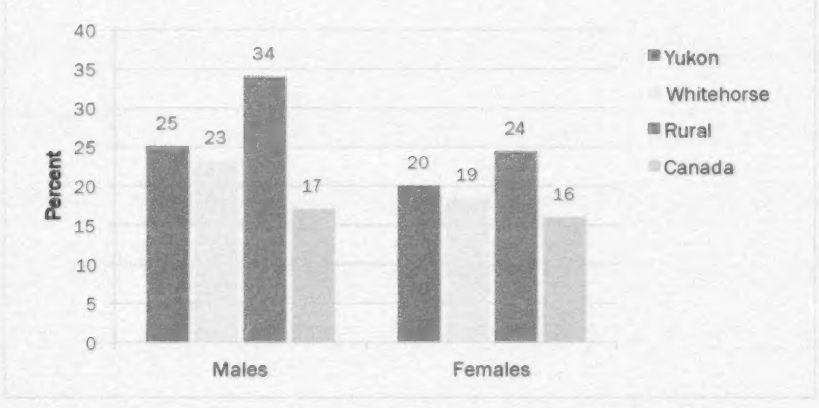
Reflecting on the injury patterns presented above also reminds us of the importance of addressing the use of protective actions to minimize harm, such as adequate training, age-appropriate usage, and use of safety gear.

Alcohol, Cannabis and Tobacco

Alcohol use among youth appears to be more prevalent in Yukon's rural areas than in Whitehorse. While 4-5% of Grade 6-8 students in the Whitehorse area report having been "really drunk" at least twice in their lives, this behaviour was reported by 14% of boys and 12% of girls in grades 6-8 in rural Yukon.[44] Among Grade 9-10 students, more than 40% in rural Yukon reported being really drunk at least twice, compared to 35% of males and 34% of females in Whitehorse.

Binge drinking (defined as having five or more drinks on one occasion for males, or four or more drinks on one occasion for females) was also more common in rural Yukon. Among students in Grades 9-10, 34% of males and 24% of females in rural areas reported binge drinking more than once a month, compared with 23% of males and 19% of females in Whitehorse. In addition to potential long-term health consequences, binge drinking is often accompanied by risk-taking behaviours that can lead to injuries and other undesired outcomes.

Figure 19: Grade 9-10 Students Reporting Binge Drinking More than Once a Month (2009/10)

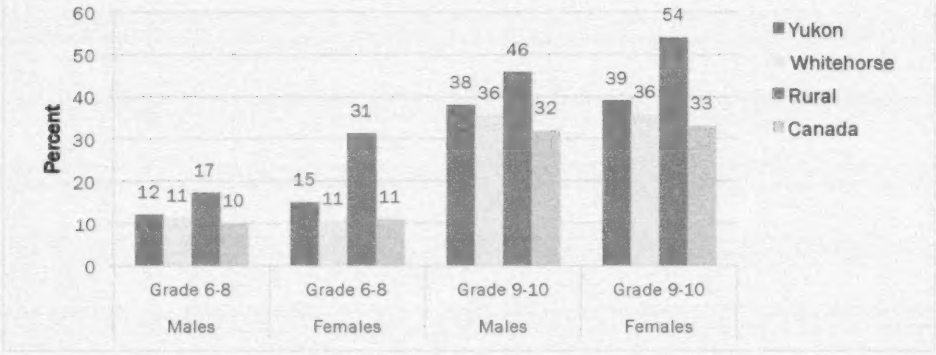


Source: Freeman, J., Saab, H. King, M. and Gropp, K. (2011). *Health and Health-Related Behaviours Among Young People in Yukon*. Government of Yukon.

There was also a substantial rural/urban split in terms of self-reported cannabis (marijuana) use, with more than 40% of males and 34% of females in Grade 9-10 in rural Yukon reporting using cannabis in the last 30 days, compared to just over 20% of the same groups in Whitehorse.[44]

Tobacco smoking remains a concern for youth of all ages and is of special significance given Yukon's high rate of smoking (shown under Risk Behaviours in Part 1 of this report). 12% of males and 15% of females in Grades 6-8 in Yukon had smoked tobacco at some point, and 1-2% reported being daily smokers. These numbers jump dramatically for students in Grades 9-10, with around 38% of students reporting having ever smoked and 8-9% being daily smokers. The highest rate was among rural males in Grades 9-10, over 20% of whom reported being daily smokers. There is a strong association between youth smoking and adult smoking: most people who become smokers start in their teens and most young people overestimate their ability to quit.[45, 46]

Figure 20: Students Reporting Having Ever Smoked Tobacco (2009/10)



Source: Freeman, J., Saab, H. King, M. and Gropp, K. (2011). *Health and Health-Related Behaviours Among Young People in Yukon*. Government of Yukon.

The HBSC study also asked some interesting questions around how youth view the risk associated with smoking, drinking and drug use. For most behaviours—smoking cigarettes on a regular basis, smoking marijuana on a regular basis and drinking alcohol on a regular basis—the majority of students believed that there was an associated risk to health. However, as shown in Table 3, rural students were more likely than those in Whitehorse to believe that the behaviours posed "little or no" risk to health. The high proportion of students who do not see these behaviours as posing a risk to health suggests that an important step in changing behaviour will be helping students to understand the potential consequences of their actions.

Table 14: Students Indicating Risk Behaviours Pose Slight or No Risk to Health (2009/10)

		Smoking cigarettes on a regular basis		Smoking marijuana on a regular basis		Drinking alcohol on a regular basis	
		Grades 6-8	Grades 9-10	Grades 6-8	Grades 9-10	Grades 6-8	Grades 9-10
Yukon	Males	14%	9%	17%	24%	21%	20%
	Females	11%	8%	11%	20%	15%	11%
Whitehorse	Males	12%	9%	13%	24%	20%	22%
	Females	10%	7%	10%	18%	14%	11%
Rural	Males	21%	14%	31%	29%	24%	9%
	Females	15%	15%	17%	27%	17%	15%
Canada	Males	11%	9%	12%	19%	20%	19%
	Females	9%	6%	9%	11%	13%	12%

Source: Freeman, J., Saab, H, King, M, and Gropp, K. (2011). *Health and Health-Related Behaviours Among Young People in Yukon*. Government of Yukon.

Sexual Activity

Understanding sexual activity and behavior among Yukon youth is similarly a prerequisite to effectively encouraging safe sex practices. In Yukon and Canada, the proportions of Grade 9-10 males and females who reported ever having had intercourse were identical: 27% of males and 24% of females. Within Yukon, rural teens were more likely to report having had intercourse than those in Whitehorse: 38% of males and 33% of females compared to less than 25% of males or females in Whitehorse.

Students were also asked whether they used any form of birth control the last time they had intercourse. Fewer Grade 9-10 students in Yukon than in Canada as a whole reported using birth control. Only 70% of girls reported using some form of birth control, compared to 78% of males in Whitehorse and 83% of boys in rural areas.

In contrast to other risk behaviours in which rural males were more risk-prone, rural males were more likely to report using a condom: more than 85% of males in Grades 9-10 in rural Yukon reported using a condom the last time they had intercourse, compared to less than 75% in Canada and Whitehorse.[44]

Safe sexual practices can help reduce the risk of sexually transmitted infections. Chlamydia rates have been of particular concern in the territory, as Yukon's overall incidence rate has been two to four times the national rate for the past 20 years.[47] Chlamydia rates are particularly high among young women in Yukon. As of 2011, the Chlamydia rate among 15 to 19 year old women in Yukon, for example, was 3,638 per 100,000 population, compared to 1,330 for males in the same age group.

Another, often unintended, consequence of sexual intercourse among youth is pregnancy. The consequences of unintended pregnancy are not only immediate, but also long-term, affecting the young mother's prospects for education and a secure future for herself and her children. The rate of pregnancies to mothers aged 15 to 19 has generally been dropping in both Canada and Yukon over the past twenty years, and is now around half of what it was 20 years ago, although it remains higher in Yukon than the national average.

Vehicle Safety

Given the popularity of off-road vehicles in Yukon, wearing a helmet, although far from the only protective measure, is an important indicator of safety behaviour. Off-road vehicle safety has also been in the news in recent years with the implementation of new bylaws in the Whitehorse area and with the publication in 2011 of recommendations from an all-party legislative committee that examined off-road vehicle usage. Among the recommendations made by this committee was "that, the issues of age requirements, underage riders, adult supervision, and age vs. size of machine be addressed in legislation and/or regulation and that government consider how other jurisdictions have approached these issues in determining the best approach for Yukon."[48] However, this recommendation has yet to be implemented by the Government of Yukon.

Another important vehicle safety behaviour for youth is avoiding being in a vehicle driven by someone who is impaired, either as a driver or as a passenger. Unfortunately, this kind of risk-taking occurs in Yukon's youth, particularly among those in rural areas as shown in Table 15. More than half of girls in Grades 9-10 in rural areas reported having ridden in the previous 30 days in a vehicle driven by someone who had been drinking or using drugs. This behaviour is a deeply concerning example of how risk choices may be contributing to Yukon's high rates of serious injury.

Table 15: Riding in or Driving a Vehicle While Under the Influence of Alcohol or Drugs in the Past 30 Days (2009/10)

		Rode in a vehicle with driver who had been drinking or using drugs		Drove a vehicle after drinking or using drugs	
		Grades 6-8	**Grades 9-10**	**Grades 6-8**	**Grades 9-10**
Whitehorse	Males	17.7%	21.1%	11.1%	8.7%
	Females	15.7%	30.7%	6.3%	16.1%
Rural	Males	19.8%	38.8%	15.4%	24.5%
	Females	30.1%	51.1%	9.9%	25.5%

Source: Freeman, J., Saab, H. King, M. and Gropp, K. (2011). *Health and Health-Related Behaviours Among Young People in Yukon.* Government of Yukon.

Healthy Weight and Nutrition

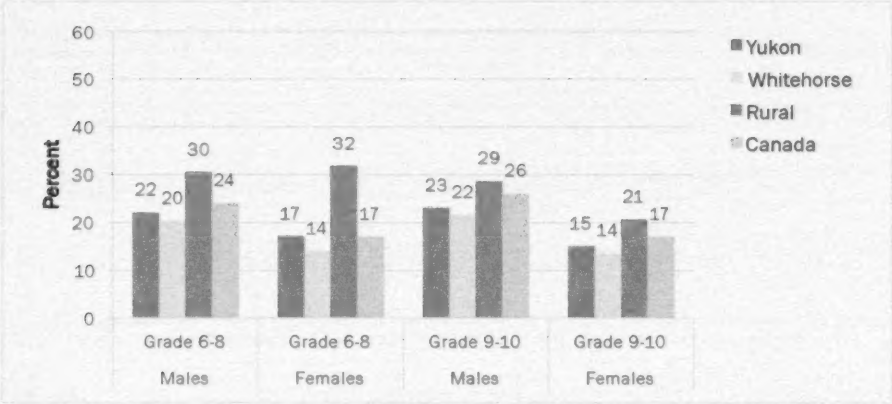
Maintaining a healthy diet and a healthy weight is of key importance to all Yukoners, but in particular for children who are still growing and developing. Eating behaviours are a product of many different influences—not only individual choice, but also factors such as food security, income and family eating habits.

Childhood obesity is a topic that has been of interest in recent years. Children who are overweight or obese are more likely to carry excess weight into adulthood, and are at risk of diabetes, heart disease, arthritis and other chronic conditions. Even before reaching adulthood, obese and overweight children may experience negative effects including joint problems, sleep apnea and poor self-esteem.[49]

Based on the 2009/10 HBSC results over 20% of males, and between 15% and 17% of females in Grades 6-8 and 9-10 in Yukon were classified as overweight or obese. Overall, students in these grades in Yukon were slightly less likely to be overweight than their national counterparts. Within Yukon, rural students were more likely to be overweight or obese than those in Whitehorse. In Grades 6-8 in particular, nearly one-

third of males and females were overweight or obese, compared to 20% of males and 14% of females in these grades in Whitehorse.

Figure 21: Students Classified as Overweight or Obese by Body Mass Index (2009/10)



Source: Freeman JG, Saab H, King M, Gropp K. 2011. *Health and Health-Related Behaviours Among Young People in Yukon*. Government of Yukon.

Some studies suggest that students who do not eat breakfast may have more difficult academically and may be more likely to end up overweight or obese.[50] In Yukon, over two-thirds of males in Grades 6-8 reported having eaten breakfast all five days of the school week, while just under 60% of females in Grades 6-8, and of males in Grades 9-10 reported the same. Females in Grades 9-10 were least likely to have eaten breakfast, with only 37% reporting this behaviour. Within Yukon, rural students at all ages were much less likely to report eating breakfast than those in Whitehorse. For Grade 6-8 males, only 50% of those in rural Yukon reported eating breakfast all five days of the week, compared with over 70% of students in Whitehorse; similar gaps were seen for both grade groups and both sexes.

Changing one's diet and eating habits can be a positive step for those who have been eating poorly. It may be less positive if dietary changes stem from an unhealthy body image, or when changes are made to result in weight loss without consideration of nutritional needs. From the 2009/10 HBSC, we can identify the proportion of students making diet changes, but can't say whether the decision to change was based on healthy attitudes, nor whether the types of changes made were the best options.

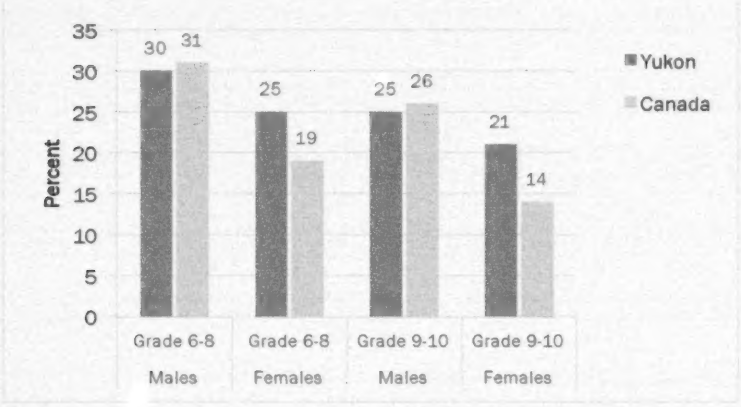
For students in Grades 6-8, around 30% (28% of males and 32% of females) reported changing their diet or eating habits in the past 12 months in order to lose weight. For students in Grades 9-10 the difference between sexes increased dramatically, with 24% of males and 46% of females reporting a change in eating habits to lose weight. The values for both Grades 6-8 and 9-10 are slightly lower than the Canada-wide estimates. Such large-scale changes in diet are worth further exploration to ensure that the changes being made by youth are consistent with healthy eating behaviours.

Physical Activity and Sedentary Behavior

Current guidelines from the Public Health Agency of Canada suggest that youth should get at least one hour per day of moderate to vigorous physical activity.[51] The majority of students in Grades 6-8 and 9-10 in Yukon and Canada are not meeting this target. As shown in Figure 22, only about 30% of boys in Grades 6-8, and about 25% in Grades 9-10 were physically active for at least an hour every day, in both Yukon and Canada. Female students in Yukon were less active than their male counterparts, but more likely to be

active than girls their age nationally. This mirrors the finding among adults that women in Yukon are less likely than men to be active, but more likely to be active than Canadian women overall.

Figure 22: Students Who Were Physically Active At Least 60 Minutes a Day Every Day for the Previous Week (2009/10)



Source: Freeman JG, Saab H, King M, Gropp K. 2011. *Health and Health-Related Behaviours Among Young People in Yukon*. Government of Yukon.

Some physical activity may occur in school as part of the curriculum. About 25% of Yukon students in Grades 6-8 and about 33% of students in Grades 9-10 spent four or more hours per week engaged in physical activity during class time. However, a greater proportion engaged in physical activity outside of school. Around 35% of students in Grades 6-8 and around 45% of students in Grades 9-10 spent four or more hours per week pursuing physical activity outside of school hours.

Even when not engaged in active pursuits, physical activity benefits may accrue through the movement expended in performing everyday tasks. Sedentary behaviour—that is, unbroken sitting time—has been linked to negative health outcomes such as obesity and decreased fitness levels.

Screen time—time spent in front of television screens, video games or computers—is one way of measuring sedentary behaviour in youth. Around 53% of Yukon students spent two or more hours per day watching television on weekdays. This was less than the Canadian average of around 62%. Males were slightly more likely than females to spend this much time watching television, for both the Grade 6-8 and Grade 9-10 groups. However, rural Yukon youth were much more likely than youth in Whitehorse to spend two hours a day in front of the television, at 65% vs. 51%.[44]

Increasingly, television is not the preferred or sole source of electronic entertainment for children and youth. 36% of students reported spending two or more hours per day playing on a computer or games console. There was a striking difference between boys and girls; 44% of males in Grades 6-8 and 55% in Grades 9-10 reported two or more hours per day of computer or game time, compared with only 21% of females in Grades 6-8 and 24% in Grades 9-10. As with television viewing, rural students of both sexes and grade levels were more likely than their counterparts in Whitehorse to report playing on a computer or games console for two or more hours per day. The highest figure was for males in Grades 9-10 in rural Yukon, 70% of whom spent at least two hours per day on computers or computer games.[44]

Conclusions

It is not traditional in Yukon to make recommendations based on a Health Status Report. One could argue that laying out the evidence should be sufficient for the public and decision-makers to contemplate what further actions may be required. However, having put this report together with the assistance of some wonderful staff, I cannot help but notice some strong themes that emerge from the numbers and trends that we have presented.

Although in many areas of health we are doing well, one purpose of a Health Status Report is to identify areas in which we need to achieve more. Let's not kid ourselves that changes in health status can occur overnight. In some areas improvement can only come in small increments and might take years, if not a generation, to occur. Where are we likely to have the biggest bang for our buck? In what areas of public health should we concentrate? Over the last few years, we have often solicited Yukoners' views on health priorities. It is time to put those views together with the health status information that we now have, and in conjunction with the experience of those people working in health services and public health, to come up with a framework for action. Such a framework could recognize many of the key themes that have emerged from this report. Here are some examples of areas that deserve serious consideration.

One thing that we have lacked so far is a comprehensive public health plan.

There are so many areas we could devote time and money to that I believe we would benefit from a plan that sets some goals for where we think we can or should be in five, ten, and twenty years. To build on the substantial work that has already been undertaken to develop a Wellness Plan, our public health goals and plan should be built around a wellness theme with a concentration of effort on our children and youth.

We have seen evidence from many recent studies and reports of a polarity of income/societal participation that requires a strong and consistent equity lens across all health and social policy.

One example of this polarity comes from the 2009/10 Health Behaviour in School-Aged Children (HBSC) study that shows us areas of achievement but also many areas of concern. Emotional well-being, early cannabis use, feelings of detachment from parents/school, and a relative ignorance of potential adverse effects of drugs, tobacco, and alcohol are some of the findings that call for more intensive efforts to protect the health of our children and youth. Differences between rural Yukon and Whitehorse were prominent in the HSBC survey and point to the need to address inequities as part of any child and youth wellness initiative.

Knowing that early childhood investments pay off massively in health outcomes later in life, we need a robust and sustained early childhood development strategy that pays attention to at-risk children, nutritional needs, parenting support, and a nurturing daycare or classroom environment.

There are already efforts being made to examine practices that could be adopted in this area. For example, the Handle with Care program mentioned in the introduction—led by the Child Development Centre in collaboration with Toronto's Hincks-Dellcrest Centre, and funded by the Public Health Agency of Canada—is an excellent example of a project that can identify at-risk children and support those who look after them.

Similarly, for school-aged children, Yukon Education is part of a First Wave three-year project in self-regulation led by Dr. Stuart Shanker out of York University in Toronto. Self-regulation is the ability to

manage emotions, behaviours and attention in order to problem-solve effectively and maintain positive peer interactions. Self-regulation is a philosophy, an approach to how we view our relationships with each other, our environment, our work, and our kids. Dr. Shanker will be working with three schools in Yukon.

Another cross-cutting theme is that of risk-taking gone awry.

In a recent talk for TEDx Yukon[1], I explored how risk-taking behaviours may be influenced by living in the North, I discussed some potential strategies to understand risk and to shape risk-taking away from destructive patterns and more toward the positive. Here are three of the areas I discussed:

"We need a better handle on northern influences on risk-taking. We should be better at measuring risk. To be more effective in addressing serious injuries, we would benefit from an in-depth analysis of all layers of injury: investigate fatal injuries systematically to understand risks mis-taken. Similarly, we could analyze selected non-fatal injuries and near misses. There are many more near misses than serious crashes, but the same risk factors presumably apply. It's also important to determine what went right. What steps were taken that avoided a fatal outcome?

In Yukon we have a history of being legislation shy when it comes to protecting our population. But we can embrace risk and safety at the same time. For example, our high rates of ATV and snowmobile combined with evidence of serious injury rates, should oblige us to consider a careful evaluation of the risks, and as concluded by the 2011 all party review committee, attempt to put a framework of legislation in place.

And third, we can influence and change behaviour with evidence-based strategies even while we don't understand all the elements of northern risk taking. If we can get people wearing safety gear as a point of pride: we can change attitudes toward risk."

We could also be more comprehensive with surveillance of chronic diseases and their risk factors: diabetes rates, high blood pressure, and levels of activity as well as injuries.

Understanding trends and risk factors on a local level can help us determine the most effective ways to influence healthier behaviours. Tobacco use in Yukon needs to be addressed head on with a comprehensive tobacco-reduction strategy. For instance, could we move halfway toward the national average within 10 years? We need to see where the gaps are in current programs and policies: from legislation addressing smoking in public places, to specific strategies to steer youth away from tobacco, and more comprehensive youth and adult "quit" programs.

Tobacco is not the only runaway chronic disease risk factor. High alcohol usage, a high prevalence of unhealthy eating behaviours and levels of inactivity that approach the Canadian norm—not a standard to aspire to—call for more knowledge and comfort to assist Yukoners in making healthy food and lifestyles choices.

Living in the natural setting that we do, we also cannot afford to ignore environmental effects of the way we carry out business.

In 2012 Yukon commissioned its first Health Impact Assessment, for a mining operation affecting the community of Keno.[2] Addressing the recommendations in the HIA is not without its challenges given that

[1] Available on the TedxWhitehorse website or at http://youtu.be/4Ej740fwv2A

[2] Available at http://www.hss.gov.yk.ca/hia_keno.php

the project is already well underway and ongoing at the time of this writing. Assessing health impacts of projects and major policies, especially when a direct effect on a community is likely, should become a standard addition to the Yukon Environmental and Socioeconomic Assessment process as these projects are being considered.

These are only a few ideas, based on reviewing the statistics and analysis that we have put together in this report. You may have other ideas and I would more than welcome your comments, which could be addressed either to YG Communications at ecoinfo@gov.yk.ca or to the Chief Medical Officer of Health website at http://www.yukoncmoh.ca/.

References

1. Statistics Canada (2012). Population by sex and age group (2012). Retrieved from http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/demo10a-eng.htm January 25, 2013.

2. Yukon Bureau of Statistics (2012). *Population Report, June 2012* (updated). Retrieved from http://www.eco.gov.yk.ca/stats/pdf/populationJun(r)_2012.pdf January 25, 2013.

3. Statistics Canada (2012). CANSIM Table 102-0563 - Leading causes of death, total population by sex, Canada, provinces and territories.

4. Canadian Cancer Society Steering Committee on Cancer Statistics (2012). *Canadian Cancer Statistics 2012*. Toronto, ON: Canadian Cancer Society.

5. World Health Organization (2001). *Strengthening Mental Health Promotion (Fact sheet no. 220)*. Geneva: World Health Organization.

6. Statistics Canada (2012). *Health Fact Sheets - Perceived Life Stress 2011*. Retrieved from http://www.statcan.gc.ca/pub/82-625-x/2012001/article/11666-eng.htm February 14, 2013.

7. Statistics Canada (2012). CANSIM Table 102-0561 - Leading causes of death, total population by age group and sex, Canada.

8. Statistics Canada (2011). Canadian Community Health Survey 2009-10 Share File. Custom tabulation on daily, occasional and non-smokers. Produced by R. Westfall, Yukon Bureau of Statistics, 2011.

9. World Health Organization (2003). Fruit and Vegetable Promotion Initiative: A Meeting Report. Retrieved from http://apps.who.int/iris/handle/10665/68395. February 4, 2013.

10. Health Canada (2011). *Eating Well with Canada's Food Guide*.

11. Recreation and Parks Association of the Yukon (2010). *Yukon Healthy Living Segmentation Study*. Whitehorse, YK: Recreation and Parks Association of the Yukon.

12. Yukon Bureau of Statistics (2010). *Yukon Social Inclusion Household Survey*.

13. Canadian Institute for Health Information (2012). *Health Indicators 2012*. Canadian Institute for Health Information and Statistics Canada.

14. Yukon Physician Recruitment (2013). *Yukon MD - Visiting Specialist Clinic. Available at:* http://www.yukonmd.ca/specialistclinic.php. *Accessed March 15, 2013*. Accessed:

15. Statistics Canada (2012). CANSIM Table 105-0502 – Health Indicator profile, two year period estimates, by age group and sex, Canada, provinces, territories, health regions (2011 boundaries) and peer groups.

16. Canadian Medical Association (2013). Recommendations on screening for cervical cancer. Retrieved from http://www.cma.ca/index.php?ci_id=54490&la_id=1&cpgId=13485 February 15, 2013.

17. Statistics Canada (2011). Canadian Community Health Survey 2009-10 Share File. Custom tabulation on cancer screening tests for selected age groups. Produced by S. Kinsella, Yukon Health and Social Services, 2013.

18. Canadian Task Force on Preventive Health Care (2011). *Screening for Breast Cancer*. Public Health Agency of Canada.

19. Statistics Canada (2012). 2011 Census Table 98-312-XCB2011030: Household Living Arrangements (12), Age Groups (21) and Sex (3) for the Population in Private Households of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations.

20. Westfall, R. (2010). *Dimensions of Social Inclusion and Exclusion in Yukon, 2010.* Yukon Bureau of Statistics, on behalf of Yukon Health and Social Services.

21. Statistics Canada (2008). 2006 Census Table 97-554-XCB2006038: Household Type (11), Housing Affordability (4) and Housing Tenure and Presence of Mortgage (8) for the Private Households with Household Income Greater than Zero, in Non-farm, Non-reserve Private Dwellings of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations.

22. Yukon Bureau of Statistics. *Yukon Real Estate Survey* (multiple issues). Retrieved from http://www.eco.gov.yk.ca/stats/stats_princ.html - realestate February 9, 2013.

23. Public Health Agency of Canada (2008). *Why all women who become pregnant should be taking folic acid.* Retrieved from http://www.phac-aspc.gc.ca/fa-af/index-eng.php February 10, 2013.

24. Statistics Canada (2011). Canadian Community Health Survey 2009-10 Share File. Custom tabulation on folic acid intake. Produced by S. Kinsella,Yukon Health and Social Services, 2013.

25. Health Canada (2007). *Smoking and Your Body: Health Concerns – Pregnancy.* Retrieved from http://www.hc-sc.gc.ca/hc-ps/tobac-tabac/body-corps/preg-gros-eng.php February 11, 2013.

26. Statistics Canada (2011). Canadian Community Health Survey 2009-10 Share File. Custom tabulation on smoking during pregnancy. Produced by S. Kinsella, Yukon Health and Social Services, 2013.

27. The Society of Obstetricians and Gynaecologists of Canada (2011). Women's Health Information: Pregnancy – Preterm Labour. Retrieved from http://www.sogc.org/health/pregnancy-preterm_e.asp February 11, 2013.

28. Statistics, Yukon Bureau of (2013). Live births recorded in Yukon by pregnancy duration, Yukon Vital Statistics, 2003-2012. Produced by S. Markley, 2013.

29. Statistics Canada (2010). CANSIM Table 102-4304. Birth-related indicators (low and high birth weight, small and large for gestational age, pre-term births), by sex, three-year average, Canada, provinces, territories, census metropolitan areas and metropolitan influence zones.

30. Yukon Health and Social Services (2012). *Kids Count: Measuring Child and Family Wellness in Yukon* Whitehorse: Government of Yukon.

31. Butt, P., Beimess, D., Gliksman, L., Paradis, C., and Stockwell, T. (2011). *Alcohol and Health in Canada: A Summary of Evidence and Guidelines For Low-Risk Drinking.* Ottawa, ON: Canadian Centre on Substance Abuse.

32. Conference Board of Canada (2013). Infant Mortality. Retrieved from http://www.conferenceboard.ca/hcp/details/health/infant-mortality-rate.aspx February 11, 2013.

33. Yukon Bureau of Statistics (2013). Total recorded births of Yukon residents / Total recorded deaths of Yukon residents (less than 1 year of age) 1990 to 2011. Produced by S. Markley. 2013.

34. Government of Canada (2011). *The Well-Being of Canada's Young Children: Government of Canada Report 2011.* . Gatineau, QC: Government of Canada.

35. Yukon Communicable Disease Control (2012). Custom tabulations produced by L. Strudwick, Yukon Health and Social Services.

36. Health Canada (2010). *Healthy Living – Childhood Health and Safety.* Retrieved from http://www.hc-sc.gc.ca/hl-vs/child-enfant/securit/index-eng.php February 10, 2013.

37. Janus, M., Brinkman, S., Duku, E., Hertzman, C., Santos, R., Sayers, M., Schroeder, J., and Walsh, C. (2007). *The Early Development Instrument: A Population-Based Measure for Communities – A Handbook on Development, Properties and Use*. Offord Centre for Child Studies.

38. Yukon Education (2012). *Annual Report, 2011-2012 Academic Year*. Government of Yukon.

39. Yukon Education (2013). Custom extraction on average days absent for Yukon schools for 2011/12. Produced by A. Mahmoud, Yukon Education, February 2013.

40. Public Health Agency of Canada (2012). *Physical Activity Tips for Children (5-11 Years).* Retrieved from http://www.phac-aspc.gc.ca/hp-ps/hl-mvs/pa-ap/05paap-eng.php February 12, 2013.

41. Canadian Fitness and Lifestyle Research Institute (2010). *Kids CAN PLAY! Encouraging Children to be Active at Home, at School and in Their Communities – 2009 Yukon*. Ottawa, ON: CFLRI.

42. Yukon Education (2013). Custom extraction on 6-year completion rates in Yukon Schools for 2011/12. Produced by A. Mahmoud, Yukon Education, February 2013.

43. Yukon Health and Social Services (2012). HBSC Analyses – Definition of 5 Scales (Emotional Well-being, Emotional Problems, Prosocial Behaviour, Behaviour Problems, Life Satisfaction). Compiled by K. Michelek based on information from Matthew King.

44. Freeman, J., Saab, H, King, M, and Gropp, K. (2011). *Health and Health-Related Behaviours Among Young People in Yukon*. Government of Yukon.

45. The Lung Association (2013). *Smoking and Tobacco: Facts About Smoking*. http://www.lung.ca/protect-protegez/tobacco-tabagisme/facts-faits/teens-ados_e.php. Accessed: March 18, 2013.

46. Reid, J, Hammond, D, Burkhalter, R, and Ahmed, R (2012). *Tobacco Use in Canada: Patterns and Trends, 2012 Edition*. Waterloo, ON: Propel Centre for Population Health Impact, University of Waterloo.

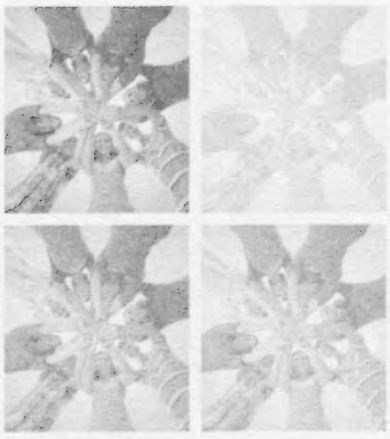
47. Yukon Health and Social Services (2013). Yukon Chlamydia Rates. Custom tabulation produced by K. Machalek.

48. Yukon Legislative Assembly (2011). *Report of the Select Committee on the Safe Operation and Use of Off-road Vehicles*. Select Committee on the Safe Operation and Use of Off-road Vehicles, Yukon Legislative Assembly.

49. U.S. Centers for Disease Control and Prevention (2013). *Childhood Obesity Facts.* Retrieved from http://www.cdc.gov/healthyyouth/obesity/facts.htm February 19, 2013.

50. American Academy of Pediatrics Healthy Living – The Case for Eating Breakfast. Retrieved from http://www.healthychildren.org/english/healthy-living/nutrition/pages/The-Case-for-Eating-Breakfast.aspx?nfstatus=401&nftoken=00000000-0000-0000-0000-000000000000&nfstatusdescription=ERROR%3a+No+local+token February 18, 2013.

51. Public Health Agency of Canada (2012). *Physical Activity Tips for Youth (12-17 Years): Tips to Get Active*. Retrieved from http://www.phac-aspc.gc.ca/hp-ps/hl-mvs/pa-ap/06paap-eng.php February 19, 2013.



APRIL 2013

Cite this report as: Yukon Health and Social Services. 2013. Yukon 2012 Health Status Report. Whitehorse, YK: Government of Yukon.